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VOLUME 24 SEPTEMBER, 1918 NUMBER 297

American Forestry

An Illustrated Magazine about Forestry and Kindred Subjects Published Each Month by the American Forestry Association, Washington, D. C.

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AMERICAN FORESTRY

THE MAGAZINE OF THE AMERICAN FORESTRY ASSOCIATION

PERCIVAL SHELDON RIDSDALE, Editor

SEPTEMBER 1918 VOL. 24 CONTENTS No. 297

MONTE CHRISTO, UPPER TWIN LAKE, IN THE SNOQUALMIE NATIONAL FOREST, WASHINGTON.

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GIVE

FOR THE RELIEF AND COMFORT

OF THE

Lumber and Forest Regiments

IT WAS THEODORE ROOSEVELT WHO SAID—

WE FIGHT NOT ONLY TO PROTECT OURSELVES BUT TO BRING NEARER THE DAY WHEN JUSTICE AND HONOR AND FAIR DEALING BETWEEN NATION AND NATION, AND MAN AND MAN SHALL EXIST THROUGH ALL THE CONTINENTS. WE LOVE LIFE, BUT THERE ARE THINGS WE LOVE EVEN MORE THAN LIFE, AND WE FEEL THAT WE ARE LOYAL TO ALL THAT IS HIGHEST IN AMERICA'S PAST, WHEN WE ACT ON THE BELIEF THAT THOSE ONLY ARE FIT TO LIVE, WHO ARE NOT AFRAID TO DIE.

CITIZEN SOLDIER No. 238, OF THE NATIONAL DRAFT ARMY, WRITES:

"THEY *say,* who have come back from Over There, that at night the troubled earth between the lines is carpeted with pain. They say that Death rides whistling in every wind, and that the very mists are charged with awful torment. They say that of all things spent and squandered there young human life is held least dear. It is not the pleasantest prospect for those of us who yet can feel upon our lips the pressure of our mother's goodbye kiss. But, please God, our love of life is not so prized as love of right. In this renaissance of our country's valor, we who will edge the wedge of her assault make calm acceptance of its hazards. For us the steel-swept trench, the stiffening cold—weariness, hardship, worse. For you for whom we go, you millions safe at home—what for you? *We shall need food.* We shall need care. We shall need clothes for our bodies and weapons for our hands. We shall need terribly and without failure supplies and equipment in a stream that is constant and never ending. From you who are our resource and reliance, who are the heart and hope of that humanity for which we smite and strive, must come these things."

The American foresters who are doing such valiant work in France deserve the hearty support of their friends back home—the members of the American Forestry Association and all others interested in the subject of forestry.

To these men, the members of the Forest Regiments, has been assigned the important task of supplying for the American army and the fighting forces of the Allies the timber needed for a thousand uses in construction work. *BACK UP OUR FIGHTING FORESTERS!*

FILL OUT AND SEND THIS FORM WITH YOUR CONTRIBUTION

Donation To The Welfare Fund For Lumbermen And Foresters In War Service

I enclose check for $_____ a donation to be used for the comfort and relief of the men of the Tenth and Twentieth Engineers (Forest) Regiments.

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AMERICAN FORESTRY

VOL. XXIV SEPTEMBER, 1918 NO. 297

HOW THE WAR GARDENERS ANSWERED

BY CHARLES LATHROP PACK

PRESIDENT, NATIONAL WAR GARDEN COMMISSION

HAS the "city farmer" made good? That is the question which thousands of people not only in the United States but in other countries have been waiting to have answered for them. They have watched the war garden movement as it grew from a mere nothing—a dream—at the beginning of the war into a nation-wide effort; and they have wondered at times how much it was actually adding to the strength and the fighting resources of the Nation.

In order to answer this question it is well to make a survey of what has been accomplished and take a bird's eye view of the home food production and conservation situation as it presents itself from coast to coast.

Three facts are of prime importance in establishing the worth of the war garden as a resource of inestimable value to the United States and the Allies in this time of food shortage.

One of these is the overwhelming number of patriotic Americans who have taken up the hoe to help fight the foe.

Another is the number and variety of organizations that have assisted in making the work a great success.

And the third is the enthusiasm which has been manifested in carrying through this new project.

Many other reasons might be mentioned to prove to anybody who still might have lingering doubts, that war

A YOUNG PATERSON PATRIOT

This is Elwood Clair Shelby, age 12, of Paterson, New Jersey, and the garden which he grew this summer. The country owes much to these youthful "soldiers of the soil" who are digging in with the hoe at home while their fathers and elder brothers are going at the Boche with the bayonet.

gardening in the United States has accomplished even more than the most roseate anticipations of its founders. Reports to the Commission from all parts of the country and the requests which have come from many foreign countries for advice and information on the subject, bear a weight of testimony as to the intrinsic merit and the inspiring helpfulness of this widespread movement. The great value of these reports in judging of the worth of the whole proposition, lies in the fact that they have come not only from all over the country but that they have come from all sorts and conditions of people. They have included simple letters from the unlettered and striking testimonials from presidents of big banking institutions and large manufacturing concerns. The factory worker and the college professor have united in their utterances of satisfaction and praise over a plan of increased food production which is of benefit to rich and poor, to the individual and the community, to the employer and the employee, to the single war gardener and to the nation as a whole.

HERE IS A REAL WAR GARDENER

He works early and late in the gardens of the Oliver Chilled Plow Company.

The vast numbers of war gardens which have been cultivated in the United States this year bespeak the success of the scheme. This only tells part of the story, however, for numbers alone do not always spell victory. An army may count millions of men in its ranks but if they have not the fighting spirit, they might retreat without a single victory to their credit. The war gardeners of America have not only grown into an army of millions; they are instilled with the determination to win. The final estimates of the National War Garden Commission show that there are 5,285,000 home "soldiers of the soil" in this mighty force. But the best part of the reports which the Commission gathered from all parts of the United States, is that they confirm the conviction that America is fighting with nothing but the winning spirit. The war gardeners are heart and soul with the boys in France.

No one class of people has gone into this work to the exclusion of others. It has been participated in and given the hearty backing and support of all sorts of organizations, women's committees and business men's associations, insurance companies, railroads and banks, village improvement associations and commissions on beautifying our cities and towns, school teachers and church societies, Red Cross chapters and park departments, army camps and hotel managers, boys' and girls' clubs and community groups, mayors and recorders of deeds, factory welfare departments and home demonstration agents, in fact, it would be almost impossible to mention any kind of organization or official which in some place has not given assistance and helped to stir up local enthusiasm in this garden enterprise.

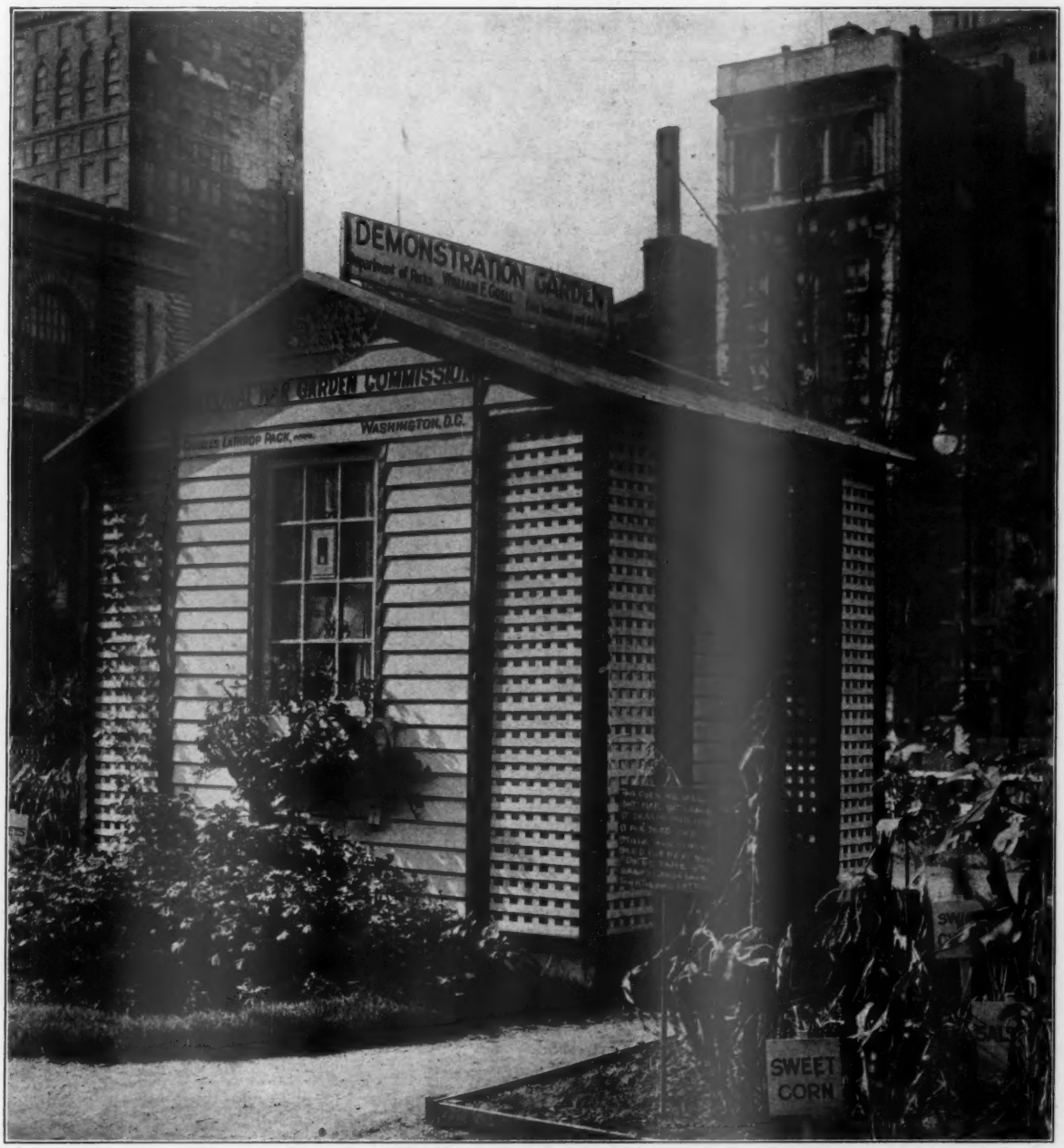
The enthusiasm which has been shown by the home food producers cannot be measured in quantity or in terms of dollars and cents. But it has manifested itself in the eager desire to help and in the seeking for information which would help to make the task a success. This was expressed in innumerable forms in the letters of request which came to the Commission all during the campaign. The demand for gardening books and for instruction was constant. During the past season the Commission distributed millions of copies of booklets on war vegetable gardening and storage of vegetables, on canning and drying of vegetables and fruits and pamphlets and other literature on the subjects as well as inspiring posters which were put in conspicuous places in banks and stores, factories and railroad stations, and elsewhere. The newspapers of the country were filled with the same patriotic desire to help, and their assistance in getting the message to the people has been invaluable. Hundreds of them have carried daily garden and canning lessons and other material of a helpful and instructive nature. They deserve the Nation's

thanks for what they have done in furthering this movement.

The canning "drive" which has followed the garden campaign this year has assumed unprecedented proportions. It seems to have carried all before it, and the women of the United States who have been largely responsible for this phase of the work seem to have taken literally the slogan on the Commission's famous canning poster and to have "canned the Kaiser" with such an immense supply of "food reserves" that he will never be able to escape from this overwhelming army now lined up on the pantry shelves.

Community canneries established in numerous places throughout the country testify to the universal favor of the garden conservation undertaking. Supplemented by individual workers who have preserved a considerable portion of their summer garden crop, these community canneries have added much to the food wealth of the Nation which will help to keep the supply always needed in order that there may be no shortage for our men who are in France and for the Allies.

Not only was the value of the garden product grown this year far in excess of that raised last year when the work of the Commission was getting under way, but the



IN BRYANT PARK THE CORN STALKS BLOOM

This is the "Little Garden House" in the "Million Dollar Garden" in Bryant Park on Forty-second Street, New York City. The National War Garden Commission distributes thousands of pieces of literature here to all who ask.

canned vegetables and fruits have surpassed in like proportion the amount saved from the 1917 crop. The estimates show that there was an increase of fifty-one per cent in the number of war gardens, or 1,785,000 more than last year when there was a grand total of 3,500,000 planted. And the value of the product this year is estimated at $525,000,000, exceeding by more than fifty per cent that of 1917. It is estimated that as a result of the garden campaign and the consequent conservation movement, the women of the United States this season have stored away 1,450,000,000 quart jars of canned vegetables and fruits.

The war garden has come to stay. This is the testimony which has come to the Commission from many sources. Those who have seen the work progress in various parts of the country and the gains made this year over last, have written to the Commission stating it as their firm belief that the back yard and vacant lot will continue to blossom and that more and more the waste places will be made to yield their abundance of food.

The opinion of experts is that the city farmer "has made good." He has proved his worth. His work this year has been far better than last because of the experience gained. When he began in the first year after America's entrance into the war he was an amateur. In most cases he had to learn even the rudiments of the game. It is true that the rules are comparatively few and simple; but there are many fine points about the proper care of vegetables which have to be mastered before the war gardener's efforts can be crowned with success. But the new tillers of the soil have studied. They have gone to those who knew more of the task than they themselves. They will continue to learn and as they do so their results will be greater and greater.

There is one branch of the work which was comparatively new this year. That was drying of vegetables. It has made a good start this year, however, and by next year no doubt much more attention will be paid to this important phase of food conservation.

Although drying is almost as old as the world itself, although the ancients are known to have practiced this form of food preservation and the aborigines of America laid by their winter supplies in this shape, although all of our grandmothers always had dried apples to last through the cold months, the art of drying has become practically a lost art, virtually unknown to this age and generation. There is no doubt, however, but that as its advantages and merits become better known, it will continue to increase in importance and use. It has so much to commend it that it is almost unnecessary to say this will be so. Excellence of quality, compactness and ease with which dried products can be kept, saving of space in

ON HISTORIC GROUND

School boys under supervision cultivated this exceptionally fine demonstration war garden on the Boston Common. Thirty-five varieties of vegetables, practically everything that can be grown in a garden except corn, was raised. R. P. Simmonds (standing at left) guided the boys in their work. In the background are women from the "Food Facts" and canning demonstration cottages around the garden.

transportation—these and other reasons will tend to make drying a more and more desirable method of conserving vegetables and fruits for future use.

Reversing the orders to the German army to "DESTROY EVERYTHING," which the Huns have carried out with faithful barbarity, the home food producers of the United States have made their motto; "SAVE EVERYTHING." This they have carried out by canning and drying all surplus products.

When it is remembered that more than 4,750,000 people in Europe have died of starvation since the beginning of the war—more than have been killed in the fighting—the necessity of raising and saving food so as to reduce this suffering to a minimum is realized. The war garden is a big ally in this great humanitarian work; and it will continue to be so after the war, for it will be years before the hunger of the world will be appeased. There will be a universal demand for food the day peace is declared which it will be impossible to fill.

WHERE IT COMES FROM

Here is one of the thousands of girls who are working in the gardens of the Oliver Chilled Plow Company to produce food to fill the pantry shelves.

The food controllers of Great Britain, France and Italy and the food administrator of the United States had a recent conference in London to discuss the food situation, at which they set forth in a resolution the following: "It is absolutely necessary that rigid economy and elimination of waste in the consumption and handling of all foodstuffs, as well as increased production, should be maintained throughout the European allied countries and in North America. It is only by such economy and elimination of waste that the transportation of the necessary men and supplies from North America to the European front can be accomplished, and that stocks of foodstuffs can be built up in North America as an insurance against the ever-present danger of harvest failure, and the possible necessity for large and emergency drafts to Europe. We cannot administer the food problem on the basis of one year's war. We must prepare for its long continuance if we are to ensure absolute victory."

The Canada Food Board in a recent statement called attention to the fact that some of the war gardeners in the Dominion had expressed themselves as unwilling to sell their surplus vegetables, thus putting themselves in the position of growing garden truck for money. The Board was afraid that a considerable amount of the food grown might be allowed to go to waste; and so it called on the war gardeners "to forswear their delicacy in this matter" and to dispose of their surplus "either by sale or by gifts to their less well-situated neighbors." The statement concluded: "The community is being closely knit by the necessities of war. Food production, food storing, food conservation and food distribution are all patriotic services of utmost importance to the whole

community." Community canneries and kitchens in the United States have been of wonderful assistance in helping to care for the surplus garden crops and have prevented waste. In some cities "moving kitchens" have been established in automobiles and have traveled about from one section of the city to another, and into the suburbs or nearby villages, giving demonstrations to the war gardeners and housewives on the conservation of food by canning and drying and distributing helpful literature. One of these trucks which was used in Boston as a flying Mercury of conservation, was equipped with every kitchen convenience and necessity, including a four-burner stove with detached oven.

In school houses and church kitchens, in buildings provided by manufacturing concerns for their employees and in temporarily fitted up store rooms, as well as in "plants" of many other descriptions, community canning of vegetables has been practiced this year. In Dallas, Texas, they put up 17,500 cans in the first few weeks after the cannery was opened, while at Temple in the same state, they canned one ton of black-eyed peas the first week the community cannery was in operation.

The women who are doing the canning and the drying this year will be taking a more active part next season in the production end of the war garden work. They have given their support and their encouragement to this part of the movement; and in a number of cases have actually gone out into the garden and done the cultivating. One of the most interesting instances which will lead to increased development in 1919, was that of a group of school teachers and girls who worked in offices who went up to northern New Hampshire and raised the vegetables in a three-acre war garden for a large summer hotel, "The Balsams," at Dixville Notch. So well-satisfied was the

HOW THE WAR GARDENERS ANSWERED

War Gardeners of the United States have run up a total of five million, two hundred eighty-five thousand, home food-producing plots according to revised figures tabulated by the National War Garden Commission after a nation-wide inquiry. This is an increase of fifty-one per cent over 1917. The figures show an increase of 385,000 gardens over the preliminary figures given out by the Commission in July. As compared with figures of 1917 the increase is estimated to be 1,785,000 gardens.

The value of the product of these war gardens will be $525,000,000, exceeding by fifty per cent that of 1917 which was valued at $350,000,000. This increase is due to two things; the experience gained in last year's work, which was the first for many people; and second, the intensive campaign this year and the fine co-operation between employer and employee. In thousands of cases acres and acres of gardens were planted with the help of business concerns which turned the land over to their employees.

IN THE WINTER THEY TEACH SCHOOL

Way up near the Canadian border in New Hampshire these girls cultivated a big war garden this summer which supplied vegetables to "The Balsams," a big hotel at Dixville Notch. So well satisfied was David B. Plummer, manager, with the work of the girls that he is planning to extend it next year. Thus a new field is opened for women who teach school and work in offices.

manager, David B. Plummer, that he promptly planned to enlarge the work next year. This hotel had been in the habit of transporting a large part of its vegetables from a considerable distance, so that the saving in freight was a prime consideration.

The girls who went up to Dixville Notch had brothers and sweethearts and friends in the service "over there." They worked earnestly and faithfully. There were eight of them and the "war garden" did not require all of their time, so that they frequently helped in the hay fields or in other work on one of the hotel farms. This they did voluntarily and cheerfully. While they did not go up to New Hampshire with the idea of having a "summer lark," nevertheless they enjoyed themselves, for they were a happy and cheerful group. They lived in a little cottage on the sloping side of a hill, looking off to beautiful mountain and valley scenery, with clear, cool lakes interspersed. Next year doubtless will see other girls follow their example.

In war gardening women are learning much that is new. The same applies to conservation of food. They will continue to can vegetables. They will learn the value of drying which is comparatively new.

Drying will commend itself more and more for its conveniences. It means a saving in time, an economy in materials and containers, and is the least expensive means of saving food. It will supercede to a certain extent the present method of canning. In a most enlightening letter on the subject received by the Commission from C. H. Gensler, superintendent of the Havasupai Indian School, Supai, Arizona, which needs no comment, is the statement:

"In reply to your letter relative to canning contest. We are not conducting a contest. Our Indians do no canning. They preserve all their food by drying."

The people of the United States will follow some of the good practices of the aborigines who dried their corn and other vegetables for winter use. They will go back to this good old method of saving food in constantly increasing numbers.

The war garden campaign in Canada this year, which received active and enthusiastic support from the Na-

NO WONDER SHE SMILES!

With a window display like this any girl can afford to be proud. While her brother, Alva Morning Starr, was serving his country in the army, Miss Jane Starr, of Los Angeles, California, was backing him up at home by doing Red Cross work, buying Liberty Bonds and by cultivating a war garden. She was the first girl in the city to receive and put up her window hanger.

tional War Garden Commission, has resulted in the production of a crop valued at $50,000,000 or more, according to the estimate of Frederick Abraham, honorary chairman of the war garden and vacant lot section of the Canada Food Board.

It is interesting to note that among the industrial and manufacturing concerns throughout the country which have encouraged and helped their employees to plant war gardens and to reap the harvests therefrom, were a large number of lumber companies. From the far Northwest where the lumber jackies are turning out the big firs which are going into ships and the spruce which is being converted into airplanes, down to the Gulf Coast where the cypress which also is going into the ships is being cut, the men are serving in every way they can. On this account they are producing part of their own food. No one realizes better than these men the demand for every railroad car for essential war work; and they know that the more food there is grown close to the place of consumption the greater will be the relief to the country's transportation facilities.

The West Coast Lumbermen's Association, with headquarters in Seattle, through Robert B. Allen, secretary, wrote to the National War Garden Commission: "Our purpose is to encourage the raising of fresh vegetables at the mills and logging camps of this state and Oregon where employees are engaged in the production of essential war material for shipping and aircraft purposes."

And here is what they are doing down in Louisiana. Listen to what C. S. Williams, vice-president of the F. B. Williams Cypress Company, of Patterson, Louisiana, says: "Practically every available piece of land that we own around the plant is being used for war gardens by our employees. We are also glad to advise that there seems to be great interest in home gardening throughout this entire territory. We have never seen the land so entirely cultivated. Hardly a family is without a garden of some sort. Almost every one of our men have gardens, a large number of them around the open space of the plant. The people are now planning a great canning campaign."

Many other manufacturing plants, both large and small, have helped to swell the vast total of home food producing plots in the United States this year; and on account of the many benefits of war gardening are planning to enlarge their efforts in this direction next year. Among other advantages war gardening helps to stabilize labor. Here is what Lewis F. De Wolfe, secretary of the Marion, Indiana, War Garden Association, reported to the Commission: "Workers here refused to leave the city to take work at higher wages elsewhere because they had planted fine war gardens and were so proud of them they would not leave them." Marion, with 27,000 people, boasts 14,800 war gardens.

Surveying the work of the past season there is much to be grateful for. The American people have gone into the home food production and conservation work with an industry and an enthusiasm which is worthy of the country's best principles. Justice and the world's freedom depended to a great extent on the efforts which they put forth in this direction. They have answered the call of bleeding Belgium, throttled by a merciless tyrant, with a sincere purpose to wipe the monster responsible for that crime and for many others from the face of the earth. They will continue to the end until military autocracy never more will dare to lift the sword in a fruitless effort to shackle the world at its feet.

WHY AMERICA WILL WIN THE WAR

National War Garden Commission,
Washington, D. C.

Please send me recipes for canning and drying or any other books that will help a mother with nine little boys and girls who do all kinds of work on our farm home. Thanking you,

MRS. IDUS TAYLOR,
R 1, Box 28, Cuthbert, Georgia.

(This letter has a little United States flag in the corner.)

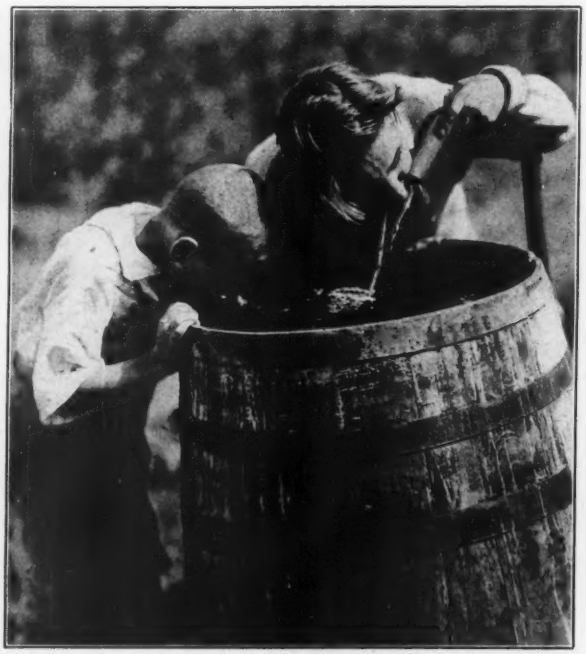
* * * * *

National War Garden Commission,
Washington, D. C.

Will you send me your book on canning and drying. I have a small garden and want very much to preserve all surplus vegetables and save a little for the coming day. I have two sons, all the children that I have, at the front and I must do all I can to help our boys who are fighting in a just and right cause.

MRS. ROBERT C. THOMPSON,
54 First St., E. Norwalk, Connecticut.

(This letter has a service flag on the front page.)



FIRST AID TO THE WAR GARDENERS!
These youngsters have fine gardens and are taking a minute off in their work.

THE RACE FOR AIRPLANE SPRUCE AND SHIP TIMBERS

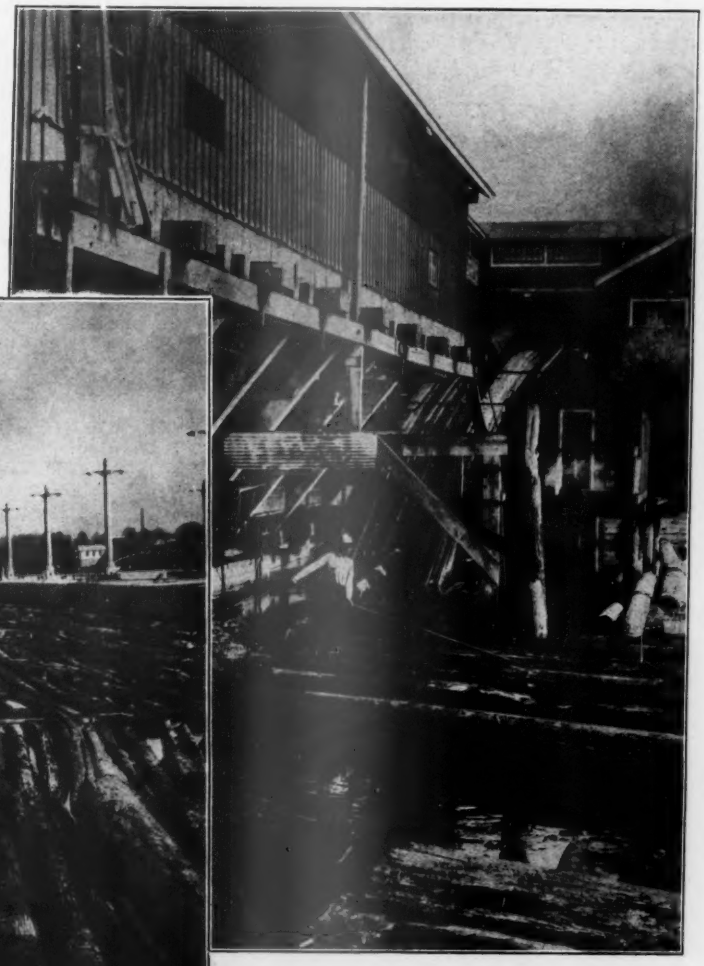
IT'S a strenuous race that's in progress along the Oregon and Washington Coast. Spruce forests are the goal. Building new railroads is the task. These new lines will tap the spruce tracts this fall, and over them will come the giant logs from whose white flesh will be stripped the tough, clear stock for airplane beams to win the war. Speed is the essential. It's the most vital race that ever was run in Oregon. The welfare of the world is at stake where soldiers labor on the grade with pick and shovel, according to *The Oregon Voter.*

The railroad part of the spruce program is by itself the most ambitious transportation project ever attempted in one year in the Pacific Northwest, this empire which transportation enterprise has made celebrated for initiative and daring. It is true that there have been more miles of railroad completed within several single years in the Northwest than this one year of 1918 will see completed, but never have there been so many miles of railroad conceived, located, surveyed, cleared, graded, constructed, and completed all within one season—all as part of the race for spruce.

Some of these railroads will each carry as much tonnage daily as is carried by a transcontinental railroad. This tonnage will be the logs from the spruce forests to the water at the sawmills.

This means that the railroads have to be built stout enough to handle the traffic. They will have to be ballasted—simply rails on ties in the winter mud won't do, especially under weather conditions such as prevail in the mountains of the Oregon coast.

Think what this ballasting means. Take the great project centering around Yaquina Bay, for instance. It stretches from the celebrated Blodgett spruce tract on the Yahats, south of Alsea Bay, to the equally celebrated spruce forests in the Siletz Basin to the north. To reach these two districts there are sixty miles of railroad being built this year—



CHAIN SKIDWAY LIFTING LOGS

The Seattle region is the main source of the lumber supply in the West, the State of Washington leading all other states in lumber production.

Photograph by Underwood and Underwood

LOGS PASSING THROUGH THE LOCKS

These are the locks of the Lake Washington Canal at Seattle. Note the variety of the logs. Washington, the leading lumber state, turns out three-fifths of the nation's shingles alone. Her annual production is over a hundred million dollars a year.

Photograph by Underwood and Underwood

37 miles of main line and 23 miles of spurs within the tracts.

To ballast the 37 miles of main line will require 4,800 carloads of gravel—about 200 train loads of 25 cars to the train. Neither gravel, nor any rock that can be used as a substitute, can be found in the Yaquina region. It is necessary to go away over the coast mountains into the Williamette Valley near Corvallis to Yaquina Bay—nearly 100 miles of curving mountain line. Quite a transportation problem in itself.

This project tributary to Yaquina Bay is only one of nearly a dozen projects being conducted by the Spruce Production Division with soldier labor through contractors on the cost-plus system. Here are some facts about this one operation:

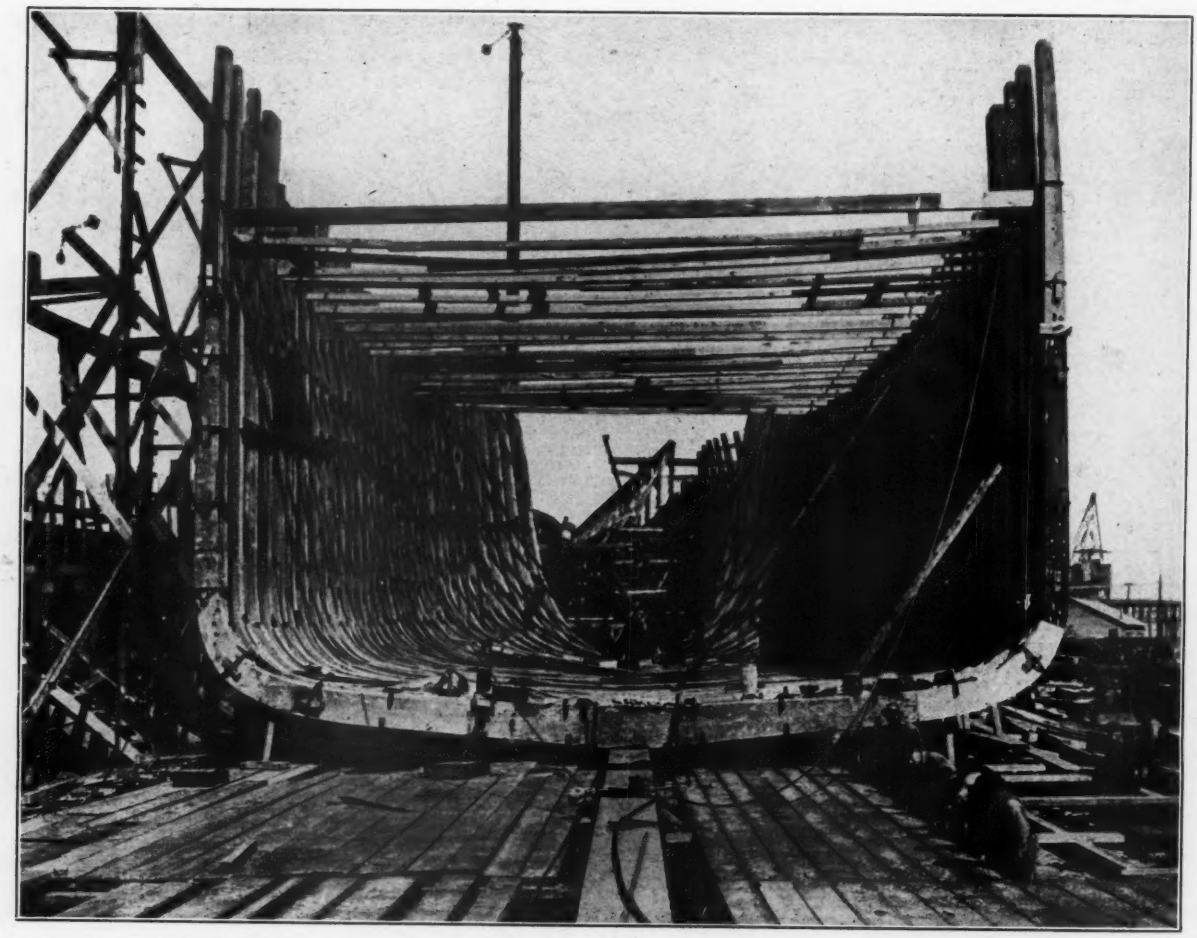
Seven miles of railroad were completed north of Toledo in two months this spring to reach one tract of spruce. Logging now is in operation there—about half the logs being cut up in the revamped sawmill at Toledo and about half the bigger logs shipped by rail to Portland, where they are sawed in a Portland mill. The flitches or cants of airplane spruce are cut off from the clear outsides of the logs at both mills and sent to the Government's new cut-up mill at Vancouver, Washington.

Already 1,800 soldiers are working in railroad construction alone, the south railroad being graded to Alsea Bay and the Blodgett tract of spruce. There will be 2,150 soldiers on the job soon.

More than 200 soldiers already are working on the north line in railroad construction toward the Siletz tracts, and there will be 1,200 men there shortly. Soldiers are coming in by the trainload. There are twenty-two soldier camps, established, with from fifty to 150 men in each; there will be 29 camps.

These camps were operating within 62 days of the time the line was roughly located.

Two hundred and fifty teams of horses now are on the grading job; seven pile drivers; two steam shovels. The horses are being taken in by the carload. New pile drivers and crews are going in; also new shovels. The job of finding this equipment in competition with all



Underwood and Underwood

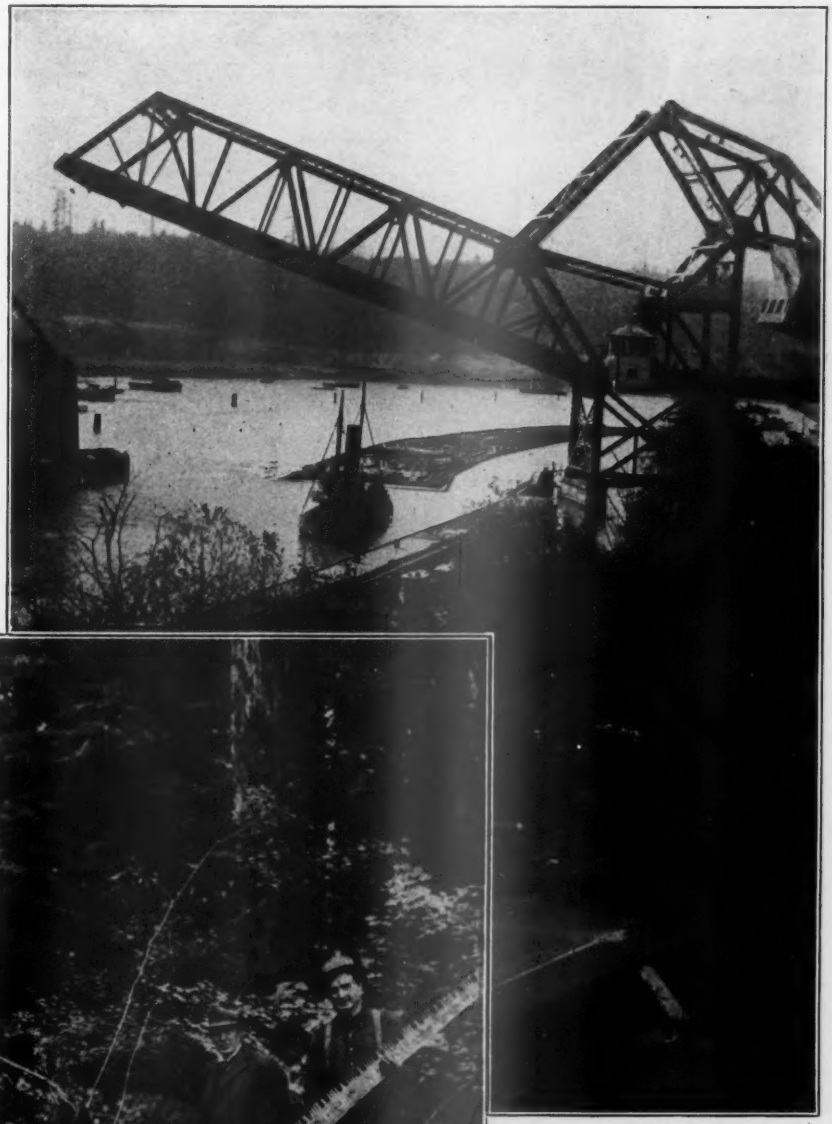
CANADA IS BUILDING MANY WOODEN SHIPS OF A NEW TYPE TO REPLACE U-BOAT SINKINGS

Standard wooden vessels of great strength and unique construction are being built at many points in Canada, helping to meet the necessity caused by the war. Yards are ringing with the sounds of the saw and the ax, mingled with sharp rapping of pneumatic rivetters. Structural engineers have evolved a new type of wooden ship that astonishes the shipbuilders of past years, who see new and hitherto undreamed of strengthening devices at all points from keel to poop deck and at the same time witness modern construction devices utilized in wooden shipbuilding for the first time. This photograph shows a ship when about half of the frames are in place and fastened to the keel, with the workmen laying the platform for the construction and erection of other frames.

the other projects and all the other public and private work now in progress is a big one.

A hospital has just been built, five big warehouses have been built, and four miles of trestle are under construction, scattered over nearly every mile of the project.

Shovels, scrapers, picks, axes, tools, and equipment are literally fought for, being assembled from all parts of the Pacific Northwest as far as Montana. The markets of Seattle, Portland, and San Francisco are combed for supplies.



PASSING UNDER THE BRIDGE

A raft of logs passing under a bridge over the Lake Washington Canal at Seattle. This canal, connecting Lake Washington with Puget Sound, makes a part of the great Seattle harbor, and is especially useful just now in the transportation of logs and lumber.

Underwood and Underwood

Rail for the railroad has already arrived and is being bent at Yaquina to the curve needed.

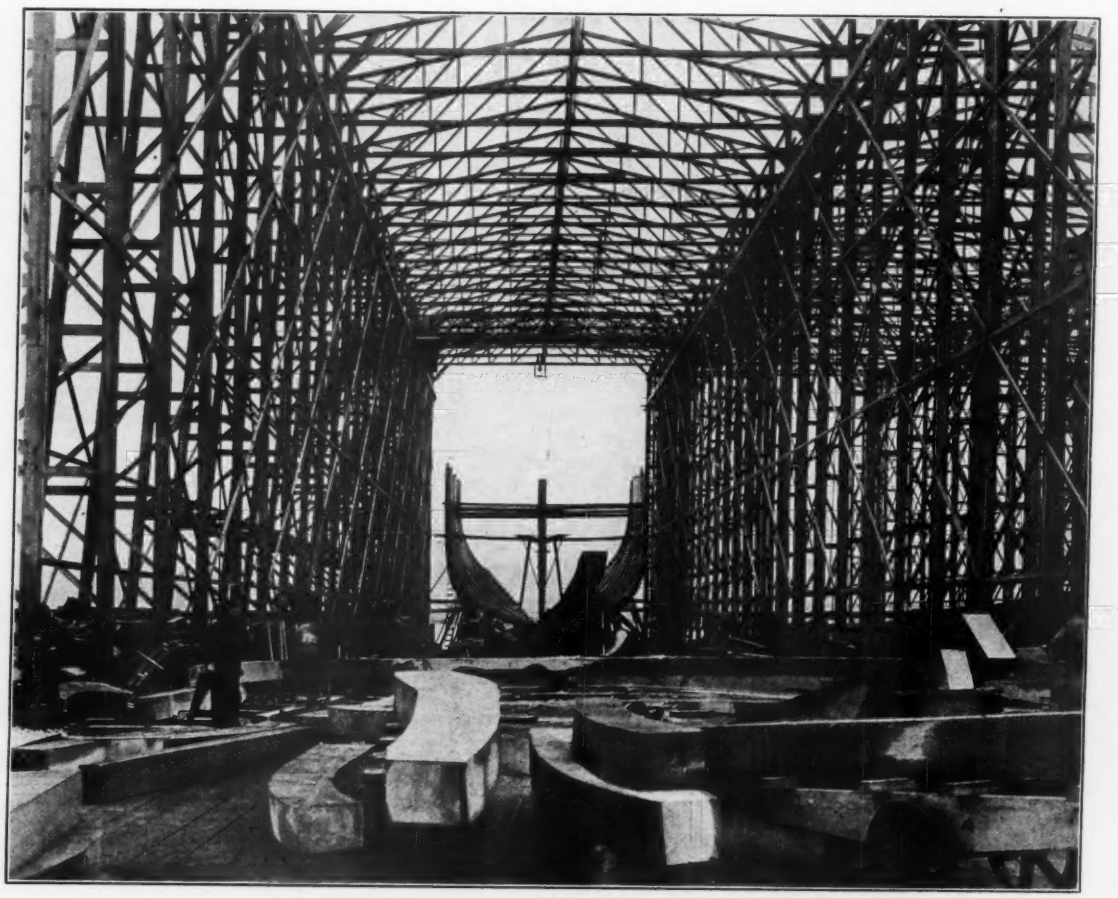
The railroad is 60 per cent on curves, so difficult is the country.

With the completion of the last mile of spur into any tract, a train arrives with donkey engines and heavy

IN THE SPRUCE FOREST

Loggers in western Washington, photographed just after they had felled a big spruce for one of the sawmills in the Puget Sound region. The lumberjacks in the northwest, and in all other lumber regions as well, are working at high speed, and ten of thousands of additional men are wanted for the industry.

Underwood and Underwood

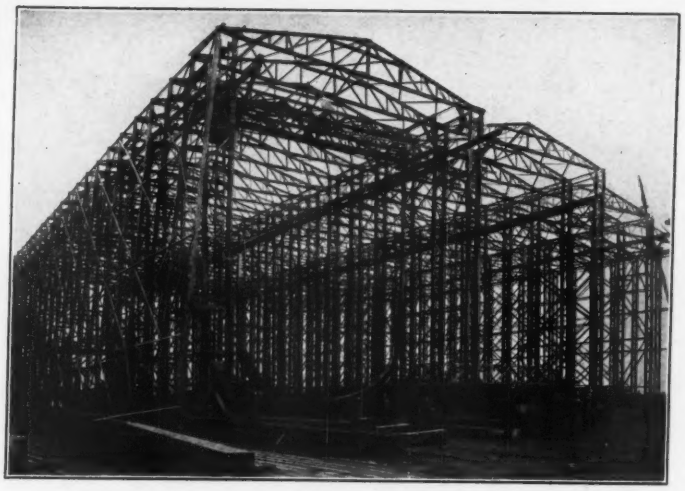


Courtesy of the Seattle Times

machinery, and within a day takes logs back with it.

Construction of a two-band sawmill has been begun at Toledo, to be finished as soon as the railroad, so logs can be sawed there instead of hauling them by rail all the way to Portland. The new mill, being built by soldier labor, will cut from 500,000 to 750,000 feet of lumber a day. Only 30,000 feet a day is being cut by the present mill at Toledo.

Twenty million feet of logs will be cut in readiness for the completion of the railroad and mill, so as to give the mill a good start for the winter. The logging will continue all winter in spite of the high water. The winter rainfall averages 70 inches, the annual rainfall 90 inches. The camps are being built substantially to provide winter comfort.



THE GREAT SHED FRAMES AT THE ELLIOTT YARD

These pictures are of the great shed frames which the new Elliott Bay Shipbuilding Company is erecting over the building ways in its plant in the Duwamish Waterway. Each of the shed frames is 300 feet long, eighty feet high and sixty wide in the clear. The structures support the great overhead traveling cranes with which each ways is equipped. In bad weather, canvas can be stretched over the tops of the sheds. The upper picture shows the interior of the shed frame over No. 1 ways in which a vessel is being framed. The lower picture shows the three great shed frames already finished.

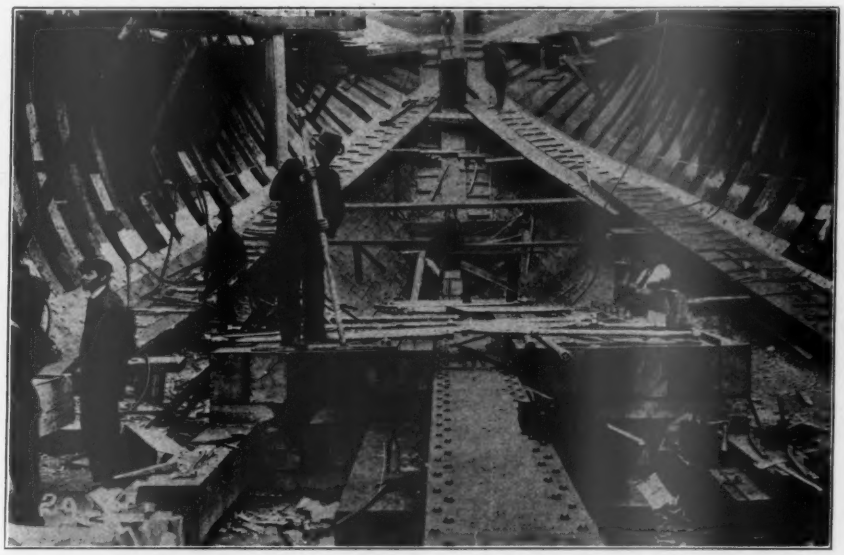
Some of the railroad right of way had 1,000,000 feet of timber per acre on it. All this had to be felled and rolled to one side of the right of way by hand power. The brush was so thick over much of the right of way that it was

impenetrable except as cut into with axes. Engineers in the winter surveying actually had to scramble on top of the brush, eight feet above the ground, to reconnoiter the line. It was so wet they had to keep fires alive to dry their instruments every little while.

Five million feet of lumber are being bought for the trestles, bridges, and ties. Very little of this is cut locally—it must be taken in by rail from Williamette Valley or by boat from Astoria. The piling for trestles is unloaded into the open sea near the place needed for the railroad, and then is captured by the soldiers and hauled in.

Dual control of the soldier workers presented a problem. The contractors of necessity had to direct the operations, for they were the experienced men. Few of the soldiers had any experience either in railroading or logging. There are clerks, farmers, bootblacks, thirty-second degree Masons, language teachers, masters of arts, Americans all, lamenting the fact that they were not in France, but appreciating that spruce had to be cut to win the war.

The contractor's job was to use this untrained aggregation of men in construction work, much of which was skilled, and in logging work, which involved even more skill. The officers' problems were many. Military training had to be undertaken. The military spirit had to be developed. There was room for friction between foremen and officers. That things are moving smoothly and with a will is convincing testimony of the patriotism, tact and energetic spirit of both officers and contractors, soldiers, foremen and all others concerned.



Underwood and Underwood

CONSTRUCTION ON ONE OF THE NEW CANADIAN SHIPS

This shows a view of the engine base in one of the standard wooden ships of the new type now being built in Canada, and gives an idea as to the size of the immense bolts with which everything is clamped solid from the skin to the plate on the base.

It's a big job, but the boys are making good. They are getting the spruce that will win the war, and this is verified by the recent report of Mr. John H. Kirby, President of the National Lumber Manufacturers' Association, who declared that the spruce necessary for the thousands of airplanes which are to materially aid the United States and its Allies in winning victory over Prussian militarism, will be produced—that production has already reached 1,000,000 feet a day at the government "cut-up" plant in Vancouver, Washington. Not only that, but strenuous efforts are being made to raise this production to 2,000,000 feet a day, and its accomplishment is practically a certainty.

Mr. Kirby, in company with other officials of his organization, recently had a series of conferences with western lumbermen at Seattle, Portland, and San Francisco, and his information was secured directly from army officials in charge of the plant in Vancouver.

Some idea of the enormity of the work being done by the United States Government on behalf of the world war for democracy may be gained from these statements. Perhaps a few simple figures will help to elucidate the situation. It is estimated that the average timber footage for the smaller types of airplanes is approximately 1,000. Of course, the larger types such as the bombing planes require around 10,000 feet. If the latter figure is taken it will be seen that material for 100 planes a day is being manufactured in this one government plant in Vancouver, Washington, with the brightest sort of prospect for raising that production to material for 200 planes a day.

If the average footage for the smaller types of airplanes is taken, a little figuring will show that the production of a million feet of lumber a day by the Washington mill is in fact supplying material for 1,000 airplanes every day, with the prospect here also of increasing that figure to 2,000 airplanes a day.

Another thing to be learned from the figures, is the fact that the United States Government is preparing for a war which may last possibly two or three years longer. The air-craft program apparently calls for production on this enormous scale because it is an absolute necessity. The figures, of course, take in one government plant only. Scores of other plants are turning out huge quantities of timber for the same purpose.

The urgent Government demands for ship timbers and airplane material are causing the fir and spruce producing mills to speed up their operations to the highest point, with the result that the production is slightly exceeding the normal capacity of the mills.

MOTOR CAR HOUSE BUILT OF ONE PIECE OF REDWOOD WEIGHING THREE TONS

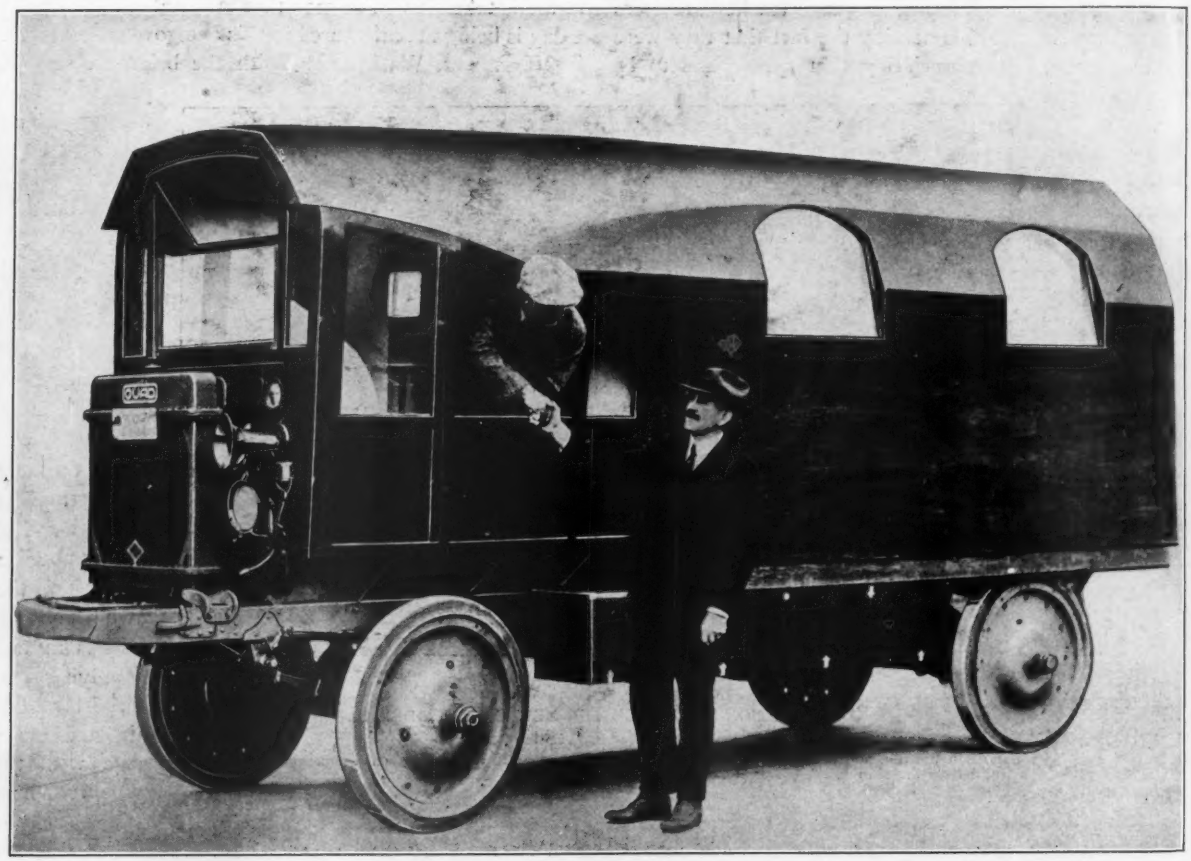
BY ROBERT H. MOULTON

HERE is the story of the modern tree man. He lives in the trunk of a huge redwood tree on top of a motor truck. Not only one man, but his wife and his chauffeur live there. Most of us are key-ring persons, this man says, and are afraid to leave our houses unlocked, but he has set out to be different. Hence his remakable automobile, which he built himself, and which has no counterpart in this or any other country.

Charles Kellogg was born in a little log cabin in the Redwood Country, a land of big trees, tall and straight, with cathedral aisles through them, lit by shafts of sunlight. At his birth his mother died, and for two years he was carried around by an Indian squaw, who strapped him on her back and took him wherever the Indians went, and so he grew up with the Digger Indians in California. A huge, hollow, redwood tree was his playhouse. He learned to know all the beasts, birds and creeping things of the forests, and they became his friends. The ground was his bed. He has lived in the open for nine months of the year ever since.

Do we hear any objection to the meatless days? The animals, birds and fish were all such friends of Mr. Kellogg that he has had over 17,500 meatless days; not only meatless days, but in the whole of his life he has never tasted fish, flesh or fowl of any kind.

When he grew older he began to travel and became a naturalist. He roamed from Alaska to Africa, through France and Switzerland and the islands of the sea. The out-of-the-way places of the globe are to him what Broadway is to the New Yorker. He travelled with John Burroughs through the East Indies. John Muir was one of his best friends.



THE LAST WORD IN LUXURY AND INGENIOUSNESS—A PRIVATE PULLMAN BUILT OF SOLID REDWOOD

The habitat of the modern tree man. The idea of a man who was born and bred in the wonderful redwood country—who has known and loved these trees all his life and who decided to build himself a home in the heart of one of them.

The man himself is like a breath of the wind. He comes into the room bringing the air of tall trees and the spaceless deserts with him. He is strong and broad, with keen, far-seeing blue eyes and a humorous mouth. He wears a rough tweed suit, a soft gray flannel shirt and a gray silk tie. In the city he wears shoes, but for the nine months of the year that he is tramping through

the hills and deserts he wears the moccasins of the Indians. By intimate study of the birds he has been able to reproduce their notes perfectly. He can sing in the highest pitch ever attained by a human being, and his voice has a range of eight octaves. He can put out the flame of a candle with the rapid vibrations of his voice at an extremely high pitch.

Down on the Mexican border last year Mr. Kellogg was lying on top of a hill in front of his camp, watching the American troops transporting their supplies overland. Wagonload after wagonload drawn by mules went to the mudhole at the foot of the hill and were stuck there in the mire and with great difficulty pulled out. Finally a light truck came along and went through the hole without any trouble.

Here was Mr. Kellogg's tip: He would build a house on one of these trucks and travel through the country in it, for this would enable him to continue his habit of living out of doors. The result was that he bought a truck and took it into the heart of the Redwood Country of California in search of a suitable body. He remembered the hollow redwood tree in which he had played in his boyhood and decided that such a piece of wood was the ideal material. After a time Mr. Kellog found his tree, a fallen redwood 360 feet long and 11 feet in diameter. From this he cut a 22-foot section, and after seven months of arduous toil fashioned the huge piece of timber into an automobile body that is a work of art.

TAKING THE LOG FROM ITS FOREST HOME

The first step was the removal of the bark. Then the task of hollowing out the trunk was begun, and it proved to be most difficult, two expert axemen giving up the job of chopping it out after a trial of three days which wore them out.

The tree from which the body was made was a fallen giant that had been lying on the ground for perhaps a hundred years without any sign of decay. As a matter of fact, it was found that the wood was full of sap notwithstanding that it had been uprooted for a century. The 22-foot section when first cut, a 14-foot saw being used for the purpose, weighed over 40 tons.

The first step after the section had been cut was to remove the bark. Then the task of hollowing out the trunk was begun. This was found to be a most difficult task. A couple of expert axemen first tried to chop out the center, but at the end of three days were worn out and gave up the job. Oxy-Acetylene was then tried, but this also failed, as the redwood proved impervious to the flame, the wood carbonizing in a wall.

Mr. Kellogg then put some of his own ideas into operation. He first drove a gas-pipe through the heart of the log by using the truck as a hammer. This small aperture was enlarged by a pepper wood chisel, which was fastened to the truck with chains. Then the hollowing out process was completed with a 22-foot chisel. This left a shell 1 foot thick and Mr. Kellogg trusted to his eye alone in smoothing out the log and modeling it as a sculptor would into a beautifully shaped body for the truck.

It was estimated that the shell in its unfinished state weighed in the neighborhood of 6,000 pounds. To mount it on the truck appeared to be almost a hopeless task. But the problem was solved by cribbing the corners with slabs and digging a passageway beneath in the soft forest floor. The truck was then driven under the great log and the latter slowly lowered into place.

Next came the task of drying out the great piece of timber without "checking" to get rid of the surplus weight. It was thought at first that it might be placed in a big kiln at Scotia and dried with steam, but the master mechanic finally decided that the temperature could not be properly regulated and refused to take the risk. Finally Mr. Kellogg solved the problem by covering the outside with a mixture of oil and distillate and

letting the log dry from the inside. As the drying out process was not sufficiently rapid, all the apertures were sealed and a sprinkler turned in for two weeks, day and night. This washed out the sap and hastened the seasoning process. At the end of two weeks the log had lost 1,180 pounds in weight.

A SECTION OF THE COZY INTERIOR

Who could ask for more comfortable sleeping quarters? This shows the bedroom—six feet square, airy and cool and electrically lighted.

Mr. Kellogg himself cut the windows and planned the interior, which contains three rooms, each six feet square—a living room, a bed-room and the chauffer's room. They are not ordinary rooms, but are furnished in a luxurious manner throughout. A fire place is built on one side of the living room; the beds are wonderful creations, with soft mattresses that fold down at night. The toilet appurtenances are exquisite; there are clever little drawers, folding arrangements and plate glass windows, and the whole car is lighted with electric light. The finished body is 19 feet long, the whole trunk being one solid block of polished redwood of exquisite grain. The rear door is also a solid block of redwood weighing 400 pounds. The hinges were fashioned by Mr. Kellogg from the rim of a wheel from an old prairie schooner, and the window shades are of yucca bark, stamped in Indian designs.

Mr. Kellogg has now driven "Travel-log," as he calls it, more than 5,000 miles, covering many of the famous mountain roads of California, notably the Rattlesnake grade, a 40 per cent incline for 9 miles, without any difficulty, and this in spite of the fact that the truck, which was designed to have a capacity of 2 tons, carries an overload of more than 1,500 pounds.

THE BACK DOOR—WHICH IS ALSO THE FRONT ENTRANCE

Please notice the door itself—a solid block of polished redwood of exquisite grain, weighing four hundred pounds! A door which would bring a thrill of pride to many an owner of a mansion were he its fortunate possessor.

WALNUT LOG PRICES

WALNUT log prices that the Government considers fair will be published soon, and owners of trees or logs should wait for these prices, unless they are satisfied with what they are offered. Representation that the Government is buying walnut is false. Neither is there any move by the Government to commandeer walnut. Walnut trees or logs are being bought by private concerns having contracts with the Government for gunstocks or airplane propellers. It is a patriotic duty to sell walnut trees or logs, but owners should be reasonably satisfied they are getting fair prices. The Government has announced that it will publish a list of fair prices, both for logs f. o. b. cars and on the stump.

FREE WOOD FOR FUEL IN ARIZONA

FREE use of dead wood for fuel has been granted the residents of Flagstaff, Arizona. This brings the policy for the Coconino Forest in line with that adopted on the Santa Fe and Carson where the use of green timber is prohibited under free use, but dead wood may be taken without permits by residents of Santa Fe and Taos.

AMERICAN FORESTRY is indebted to Dr. R. W. Shufeldt, of Washington, District of Columbia, for the photograph of the "Vegetable Boche," published in the August issue, which he was good enough to make from the unusual botanical specimen sent in by Miss Long.

OUT IN JERSEY—CATCHING FROGS AND THINGS

BY GAYNE T. K. NORTON

ALONG the Morris and Essex canal, "somewhere in New Jersey," the boys have found a way to earn their guns and fish-poles without doing much work, or spending any money to make the amount needed. They catch frogs and sell the hind legs in the Paterson markets, getting from forty to eighty cents a pound for them. Sort of hard on the frogs, but the "natives" claim they can sleep now, even if the mosquitoes are a bit worse.

The methods of getting the frogs vary with the boy. Some, the prosperous ones who have been in the business more than a single season, use a .22 caliber rifle, shooting B. B. caps; others, less fortunate, use the time honored bent-pin-and-red-flannel system. Some prefer a canoe paddle, while a few are partial to the bean-shooter.

The youngsters old enough to be "allowed out after dark" get "the big croakers," the prizes; a lantern or electric flashlight with a forked stick is the best in this case. Of course, they are bare-footed and once in a while it happens that a swamp black snake gets in the way of the stick, but money-mad boys don't mind a little thing like this. If a stray 'coon or 'possum happens along he is also bagged and the night is doubly profitable.

The "day workers" do not get a chance at the 'coon and 'possum, but they even things up by snaring an occasional pickerel or two. They get good-sized fellows that are readily sold with their hands, too, but at a cost of patience only a boy with an idea possesses. They wade kneedeep into the water, squat down, with both hands submerged, palms up, and wait. Many fresh water fish do not mind being touched on the underside—they are constantly rubbing against the bottom of the stream, so are used to the sensation. When Mr. Pickerel comes along and stops dead still, facing the current, a strong brown hand is slyly slipped under him. The hand grips —sometimes water—and comes up with the prize. But the fish is slippery, and if he is not immediately thrown well up on the bank he will flop free. The sides of the canal are steep, and of slippery clay. The grab for the fish is disconcerting, and likely as not the fisherman will loose his "toe-hold," wildly wave his arms, fall with a splash, and come up fishless, so even if grabbed the fish has a run for its freedom.

Who wouldn't be a boy again and catch frogs and things, and have a goal, a gun or fish-pole, to be worked for and anticipated?

Photograph by G. T. K. Norton

A SPOT WHERE MANY A BEAUTIFUL HOUR MIGHT BE WHILED AWAY

In the frog country "somewhere in New Jersey" along the Morris and Essex Canal. Who wouldn't be a boy again to catch frogs and things in such country as this?

"BATTLE OF THE TREES"

A SPECIAL cable to the Cincinnati *Times Star* says: "With the American Army in France, August 3.—The French speak of it admiringly as the Charge of the Rouge-et-Blanc. It was one of the most magnificent, desperately courageous charges of this period of the war. In it were Indians, lumber jacks and farmer boys, hence the French Red and White.

"The Red men and their white brothers had moved stealthily toward the Meuniere woods, bayonets set. Hidden in the cover of the woods were the renowned Two Hundredth Jaegers and the Two Hundred and Sixteenth Reserve division. German machine gunners had been planted in trees. Behind sandbag ramparts were other guns. Not a sound came from the advancing Americans until they had pounced upon their prey and were in bayonet-lunging position.

"Then a bedlam broke loose. Every American within a mile knew that Indians were in battle; that the tremendous-voiced white men of the American forest lands, too, were up and atop of the enemy. In the medley of battle sound, mingled in equal power the wild war-whoops of the Redskins, piercing, blood-curdling, the war yells riding high over the thunder of gunnery; the war-shouts, in deeper voice, of the American woodsmen engaged in the fighting they love most, the hand-to-hand struggle, and the hurrahing of the farmer boys, who gave tongue after the manner of their city cousins.

"Never in the history of this war were the picked fighting men of Germany beset in such fearful array. The sharp eyes of the Indians marked out the machine gunners in the trees for dead men. Some were dropped by the unerring bullets of Indian, lumberjack or farmer lad. Others found the lithe Indians swarming up the very tree trunks after them. A brief affray, a knife expertly thrust, a dead German, an eager Indian leaping panther-like to the ground and racing for another occupied tree. That, in substance, is the story of the tree-fighting."

USE WOOD—SAVE COAL

USE wood—in this way you will aid in conserving coal this winter.

Wood is being urged as conservation material in practically all industries by the War Industries Board. This is indicated in a recent letter by George R. E. Day, director of the Oil Well Supply Division, United States Fuel Administration, addressed to the managing heads of oil and gas producing companies.

Mr. Day, of course, urges the co-operation of the oil companies in the conservation of steel, but in a list of "Don'ts" he puts wood first as a substitute for steel in storage tanks, roofing and in building operations.

For instance he says: "Don't use steel tanks for any purpose where wood or concrete is available." Also, "Don't use steel for roofing when wood will answer the purpose."

NATIONAL FORESTS RECEIPTS INCREASE

RECEIPTS from the National Forests in the fiscal year 1918, ending June 30th, exceeded those for 1917 by almost $120,000 and totaled over $3,574,000. The increase does not come up to the big increase of the year before, which was more than $600,000, but still shows a healthy growth in most lines of business on the Forests. The cost of operating the Forests was about $4,000,000, and was practically the same as in the previous year. This is exclusive of the additional expenditures caused by the very serious fire situation and for which a special deficiency appropriation of over $700,000 was made by Congress.

This year's increase in receipts, according to the forestry officials, came mainly from the larger number of livestock grazed, although every revenue-producing activity on the Forests except timber business and permits for water power contributed its share. The timber business fell off in consequence of the general let-up in private building activities on account of the war, the dislocation of transportation facilities during much of the year, and the labor situation, especially in the Northwest, where the timber business is ordinarily largest.

The falling off in receipts from water-power permits was caused, it is believed, by the uncertainty created by pending legislation. Many prospective permittees are holding back until final action has been taken on the legislation now under consideration.

Timber sales yielded over $1,500,000 and livestock grazing over $1,700,000. Slightly less than $100,000 was brought in from permits for water power development. Other forms of land occupancy, including leases of land for summer homes, hotels, club grounds, apiaries, fish hatcheries and canneries, brought in about $120,000. The sale of turpentine privileges on the Florida Forest brought in a little over $8,000.

Much of the use of the National Forests is free. Settlers and residents of the small communities in and near the Forests are allowed without charge reasonable amounts of wood for fuel. In addition, the settler may obtain timber for use in the improvement and maintenance of his farm and is given the privilege to graze free not to exceed ten head of milch and work animals.

Considerable co-operation was also given the Forest Service by grazing permittees in the construction of drift fences and the improvement of watering places. Although the range is being used to the limit the forestry officials are regulating the use carefully, with a view to preventing any permanent damage to carrying capacity.

PLANTED when General U. S. Grant was a lieutenant stationed at Fort Vancouver, a cherry tree on the farm of Grant Farmer, on Ford's Prairie, Washington, is still bearing at the age of 84 years. It has a spread of 65 feet and its trunk measures 10 feet 11 inches in circumference.

PLANT WALNUT TREES

THE USES OF WOOD

WOOD IN THE MANUFACTURE OF BOXES AND CRATES

BY HU MAXWELL

Editor's Note:—This is the fifth story in a series of important and very valuable articles, by Mr. Maxwell, on wood and its uses. The series will thoroughly cover the various phases of the subject, from the beginnings in the forest through the processes of logging, lumbering, transportation and milling, considering in detail the whole field of the utilization and manufacture of wood.

MANUFACTURERS of boxes and crates in the United States consume more than 4,600,000,000 feet of lumber a year. One-tenth of the country's entire output of lumber goes into this product. The making of boxes and crates is regarded as a single industry. All boxes are not made of sawed lumber, though most of them are. The use of veneer boxes is increasing. In some boxes the single veneer sheets are employed and in others the single sheets are superimposed to form compound sheets of two, three, or more plies. The tendency is to use thinner lumber than formerly in the production of boxes. That commendable economy is induced by the increasing cost of raw material, but it is promoted by better workmanship in box making than was customary years ago. The package must be strong enough to carry the commodity it is meant to contain; and improved devices in manufacturing have made it possible to produce stronger boxes with less lumber.

DRYING RAISINS IN THE SUN

No artificial heat is needed in curing California raisins. They are placed on trays made of thin boards and the pure air and hot sun do the rest. The accompanying picture represents a typical vineyard scene. The vines lie flat on the ground and the trays are placed between the rows. Photograph by courtesy of the California Pine Box Distributors, San Francisco.

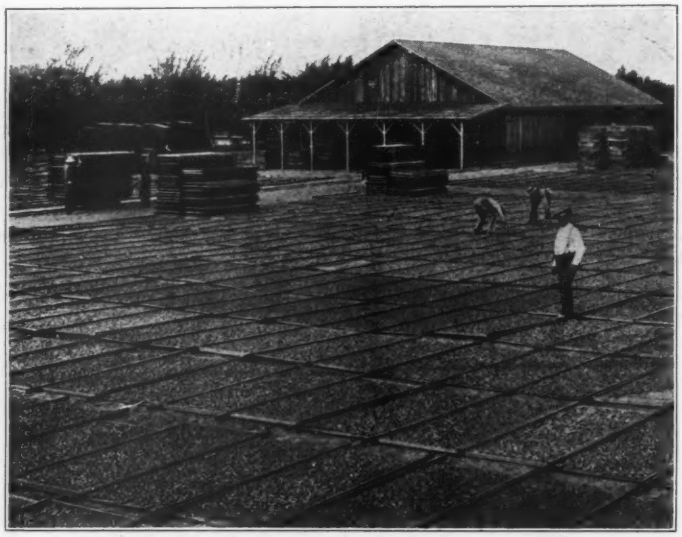
Most boxes are held together with nails. If extra service is exacted, screws may be substituted for nails; or strands of wire or bands of strap iron may bind the package and add greatly to its strength without much increasing its weight. Other strengthening devices consist of lock corners or of dove-tailing; or there may be reinforcing braces, slats, or cleats. Manufacturers who make a point of securing extra strength, work toward that end by employing strong lumber to begin with. Some woods are more than twice as strong as others, though as a rule, there is a ratio between the strength and the weight of dry woods, so that what is gained in strength may be lost in the disadvantage of added weight. Nevertheless, much choice may be exercised, from the box-maker's viewpoint. A wood's nail-holding power may be of more importance than its strength.

The manufacturer of boxes must take many factors into account in the selection of lumber. It is said that the box maker accepts what others cannot use, and thus makes a clean sweep of the refuse piles in the mill yard. While true in a general way, the maker of boxes selects wood carefully for particular kinds of packages but he produces so many kinds that what he cannot use for one, will do for another.

If it is a shipping box, the shipper may want to print, paint, or stencil his name and his advertisement on the outside, on one, two, or possibly on all six sides. Advertising of that kind is of much value to the shipper, and he is particular to secure a suitable wood. It must be of light color so that ink and paint will show clearly on the surface. Excellent woods for painting, printing, and stenciling are white pine, spruce, basswood, cotton-

wood, holly, tupelo, and yellow poplar. Red gum is not quite so white as some of the others, but it is highly satisfactory and is much used by makers of boxes which display lettering.

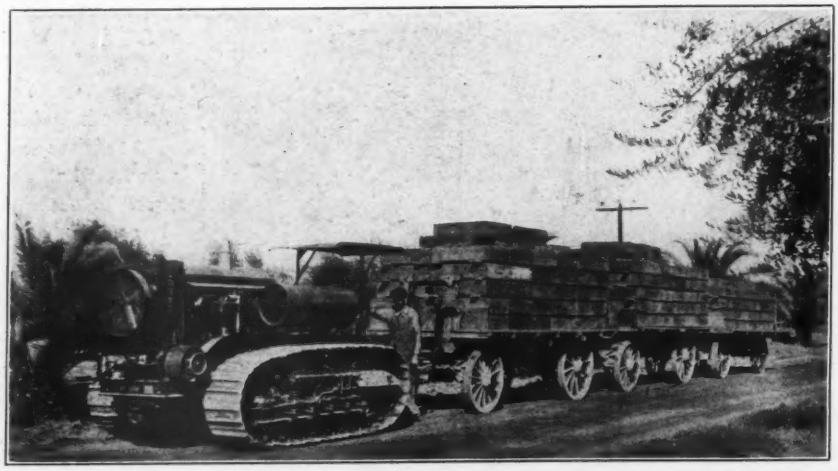
Every freshly-cut wood gives off an odor, but the intensity of the odor diminishes as the wood seasons. The man who expects to ship food products in wooden containers, must choose the wood carefully to make sure that no injurious odors will be imparted to the contents. All foods will not absorb odors from the wooden containers, even when such odors are strong; neither are all odors considered objectionable. Judgment on each must be passed separately.



FRUIT TRAYS IN CALIFORNIA

This product belongs in the category of boxes, and their manufacture is a big business in the far western states where the sun furnishes heat for drying fruit. Rains are unlooked for, but if a suspicious cloud appears, the trays of fruit are hurriedly stacked, one on another as a protection against a wetting.

In some instances a wood's odor adds value to the article shipped in the package. Cigars in Spanish cedar boxes afford a good example. The cedar's odor is very pronounced, and for that reason the wood is sought by manufacturers of cigars. Nearly half of all the cigar box wood used in the United States is Spanish cedar. Southern red cedar and incense cedar of California possess strong odors, which have never been popular with smokers though they are liked by users of lead pencils.



FORERUNNER OF THE BATTLE TANK

This caterpillar tractor is hauling a load consisting of 190 raisin "sweat" boxes, weighing approximately fifteen tons, in the Paul Driver Vineyard, Dinuba, California. The boxes are for curing raisins, not shipping them. This motor was the model after which the battle tanks in Europe were patterned.

Certain woods possess taste as well as smell, and the box maker must bear that fact in mind or run the risk of displeasing shippers, particularly those who handle plug tobacco. That article has an exceedingly rank smell and taste of its own, and it is also highly colored; yet it is easily injured by the stain, taste, or odor absorbed from the caddy in which it is packed. Dealers once were of the opinion that plug tobacco should be shipped in no box that was not made of sycamore; but several other woods are accepted now, among them being red gum. Two hundred years ago in Virginia and Maryland, it was believed that cured tobacco should be shipped or stored in no wood except yellow poplar. At the present it is quite widely believed that butter is better if it touches no wood but ash; and a similar notion obtains regarding tea, which, it is claimed, ought to be shipped and kept in the Chinese wood in which the orientals pack it, and which bears the Chinese seal and stamp as a guarantee that both tea and wood are genuine. The notion might lose some of its popularity if it were generally known that the wood of which the tea boxes are made did not grow nearer China than several thousand miles. Some of it comes from Russia, some from Maine, some from elsewhere, but the boxes, or the material of which they are formed, is sent to China by European or American tea merchants, and all that the Chinese have to do with them is to paste paper on and in them and stamp them with cryptograms, and fill them with tea for foreign markets.

Food products are only one of several classes of commodities which go to market in wooden containers. Large quantities of dry goods are so shipped, including clothing, cloth, millinery and shoes. The boxes are usually large and the contents only moderately heavy, and woods which are relatively light and weak, such as white pine, spruce, cottonwood, fir and

basswood, suffice for the boxes of that class. The tendency is to substitute veneer for lumber, and three-ply sheets are much used, with reinforcing strips at the edges of the boxes to protect the exposed parts. Less advertising is done on the outside of boxes of that class than on those carrying food; yet stenciling and other lettering are employed, and the colors of the woods should be light enough to show contrasts with the ink or paint. Formerly nearly all boots and shoes were carried from factory to market in wooden boxes, largely of white pine, but boxes of fiber board have now displaced many wooden boxes for shoes.

The distinction between boxes and baskets is not always apparent, when both are of wood, but the shape often helps to determine whether a container is a basket or a box. The basket is usually lighter and is of more open construction and it is generally preferred as a shipping container by truck gardeners and the growers of berries and small fruits. Veneer is in much use either as sheets for berry cups or in splints for baskets. Wood of almost any description, provided it is sound, can be used in basket making, because pieces are small. Nearly any wood is strong enough, and color is not important, nor is odor usually an objection or an advantage. The articles range in size from the banana crate which holds more than a bushel, down to the berry cup of a capacity of a pint or less.

CHIEF BOX TIMBER OF THE PACIFIC COAST

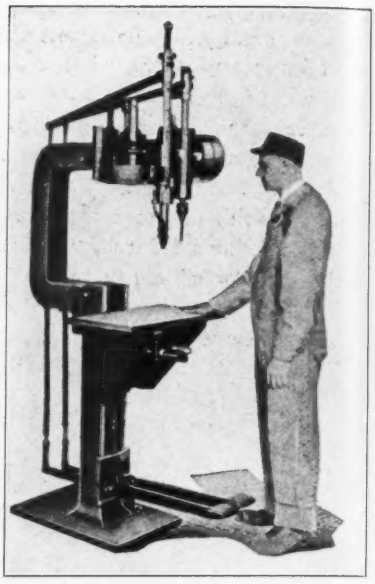
Western yellow pine is often marketed as California white pine. Botanically, it is yellow pine, but is very soft and white. It supplies more box lumber than any other species west of the Rocky Mountains, though Sitka spruce bids fair to be a strong competitor in the near future, and sugar pine has long been a competitor.

Along some lines baskets are not clearly distinguishable from crates, but elsewhere the distinction is complete. Furniture, hardware, slabs of stone, as well as innumerable other articles and commodities which are liable to injury in transportation, are shipped in crates. The finished crates may be made in quantities in factories, or they may be put together one by one, as needed,

NAILING MACHINE FOR BOX MAKING

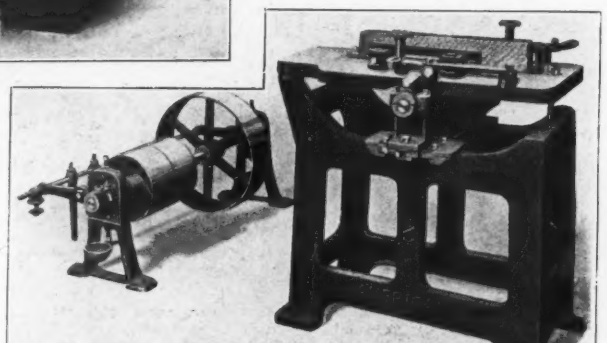
Driving nails by hand and with hammers is entirely too slow a process for modern business. Machines for doing the work have been constructed under various patents. The nails are fed from hoppers, and so accurate is the adjustment that a nail seldom goes wrong though the work is very rapid.

by cutting and fitting the slats and strips about the article to be protected. The so-called "knock-down" crate is a sort of box made of sticks or slats. One of that kind is much used in shipping onions from Texas. It is of lattice work which is intended to give better ventilation to the contents than could be secured if a box were used instead. Articles like sewing machines are shipped in standard crates which may be easily put on and taken off, and they are commonly returned to the factory for use again and again. Even articles as large as buggies, canoes and farm implements are carefully nailed up in crates for protection during shipment. Many articles must have crates of special form to fit their inequalities. The bicycle is an example. Very tough, thin lumber serves best for crates of that kind. The long, thin slats must curve round the object that is to be enclosed. Elm and hickory serve best in work of that sort.



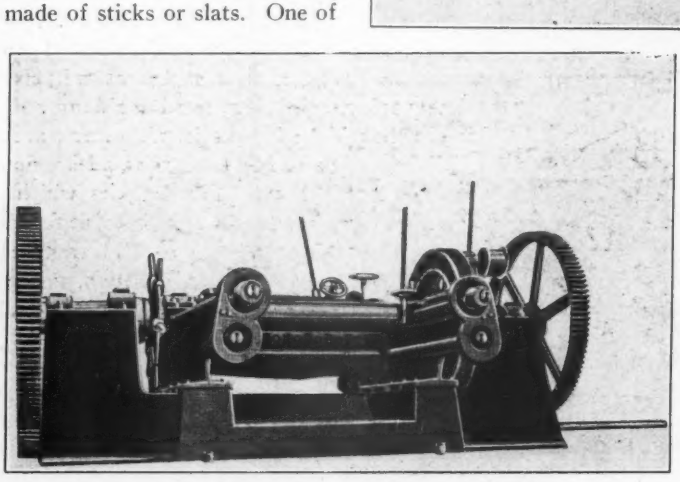
BOX BOARD MATCHING MACHINE

Nothing about a box factory is done by hand that can be done by machinery. The above cut represents a machine that is employed in working up waste materials, stock of any width and up to two inches thick. the picture is from the American Woodworking Machinery Company, Rochester, New York.



SCREW DRIVING MACHINE

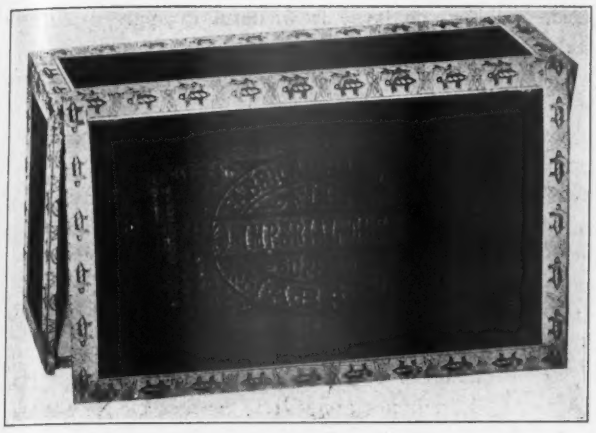
When boxes of extra strength are wanted, screws are sometimes used instead of nails, and machines for driving the screws are in use in factories which produce boxes of certain kinds. Machines hold records of driving more than 15,000 screws a day. They are not hammered in like nails, but are revolved as in hand work.



MACHINE FOR CUTTING BOX VENEER

Large numbers of boxes are made of thin sheets of veneer. A machine for making such veneer is represented in the above cut. The photograph for the cut was furnished by the Merritt Manufacturing Company, of Lockport, New York.

Trays are closely related to boxes and crates, at least so far as the manufacturing goes. Kinds and uses are almost innumerable. Fruit trays on the Pacific coast, particularly in California, are in much demand where the heat of the sun is utilized in drying peaches, apricots, prunes, raisins and nectarines. Some mills make nothing but fruit trays, while others make both the trays for drying the fruit and the boxes for shipping it. Trays for that purpose vary in size from about two feet wide and three



A REDWOOD CIGAR BOX

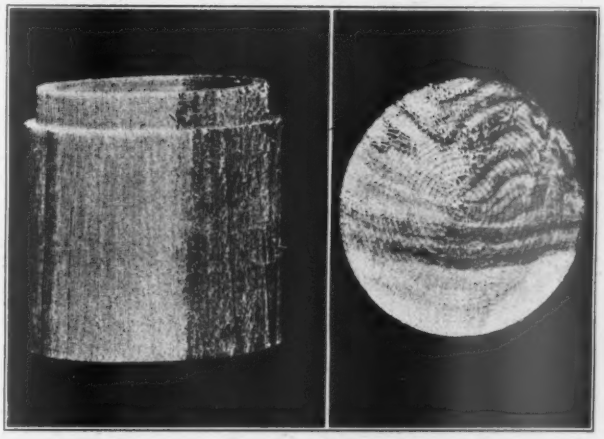
Most cigar boxes are of Spanish cedar which wood is not native of the United States; but many attempts have been made, and with some success, in substituting our own woods for this use. Among those so used are southern red cedar, yellow poplar, tupela, and red gum. The box shown in the above picture is of California Redwood.

BOXES STRAPPED WITH IRON

Many shipping boxes are bound with strap iron or with wire to give additional strength. Boxes containing heavy articles are so bound because the nails might not stand the strain alone; and other boxes of thin lumber have the same bands as a precaution against the breaking of the wood.

tacks, brads, screws, little hinges or other kinds of small hardware. Containers of this kind are often called wooden novelties or woodenware. They are produced in enormous numbers and carry numerous articles to market. The boxes vary in size from those little larger than a thimble to others holding a quart or even more. They are strong and they carry with safety what is placed in them, whether it be brass screws, ivory buttons, hairpins, bottles of ink, powdered paint, pills, plasters, corn medicine, or other small articles or commodities. These containers are of many woods, but more are of paper birch, yellow birch, and white pine than of any other woods.

Artistic finish is given to certain kinds of small boxes intended for jewelry, handkerchiefs and toilet articles. The boxes are meant to be



SMALL TWO-PIECE BOXES

These consist of a body and a lid and they are the product of a lathe. Druggists and packers of small hardware like tacks, brads, screws, and hinges are the largest users. Birch, maple, and pine are the common woods for these boxes. They are produced in various sizes and by the million.

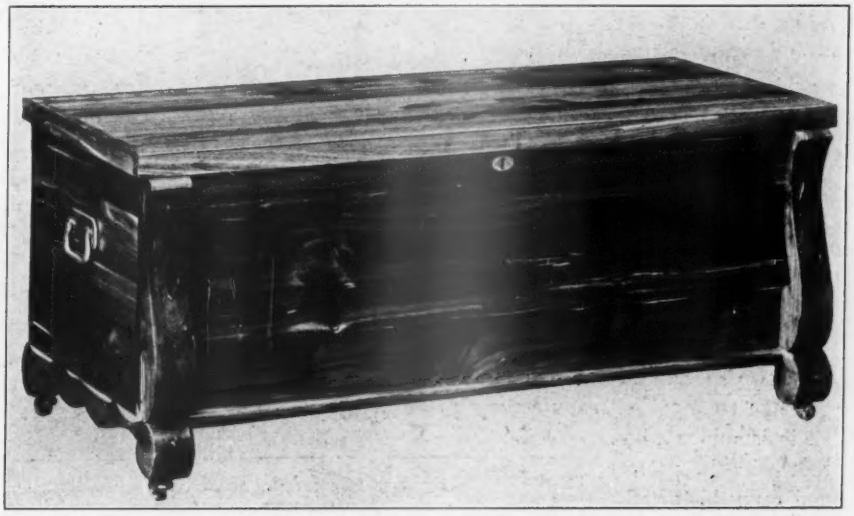
long, up to three or four times those dimensions. In California where summer and early autumn rain is not expected, the trays with their fruit are spread upon the ground, perhaps covering acres, with the fruit exposed ready for the sun to finish the work.

Occasionally an unexpected shower does great damage to the half-dry crop; but the working force is drilled in the art of protecting the fruit by piling the trays one on another, in ricks six or seven feet high. A native rhymster drew the picture with local color thus:

There's not a cloud comes o'er the sun
In these ambiguous autumn days
But that the raisin growers run
And scally-whoop to stack their trays.

The fruit trays in the foregoing category are made of sugar pine, western yellow pine, fir and incense cedar, and many millions of feet of lumber are consumed in manufacturing the annual output.

Many two-piece boxes are produced. They are quite small and consist of a body and a lid, each bored from a solid block of wood and fitted to the other ready for service. They are used as containers for drugs, pills, tablets, capsules; and hardware dealers employ them as containers for



RED CEDAR SHIRT WAIST BOX

This article may be classed either as a box or as a piece of furniture, for it is both. The box shown in the cut is of red cedar, but similar boxes are made of the incense cedar of California and of Port Orford cedar of Oregon. The odor is reputed to drive away or kill moths and other injurious insects.

ornamental as well as useful, and the tops and sides are frequently decorated to increase their beauty. Hand-painted lids are not unusual, and the decorative work frequently more than doubles the cost of the plain box. Choice woods are preferred, among them being Circassian walnut, mahogany, rosewood and ebony. If the ornamentation is produced by phyrography, as is frequent when that style is in fashion, the wood that behaves best under the point of the burning needle is selected. No moderate priced wood is superior in this work to basswood, but cottonwood does not fall much below it. For the finest grade of work the pyrographer often selects orange wood or some other that is very hard, dense and fine grained, with absence of distinct growth rings.

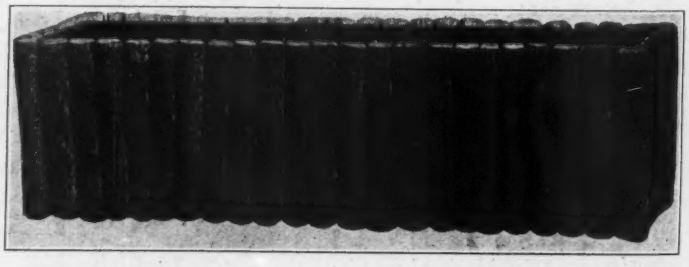
Most manufacturers of boxes would welcome standardization in the output; that is, regular established sizes and shapes, and the elimination of so many sizes and special patterns. If boxes could thus be standardized it would be practicable to employ machinery to better advantage. Some progress in that direction has been made and further advance is promised; but to reduce all boxes to fixed sizes and shapes is a problem beset with almost insuperable difficulties. Articles to be shipped are of dimensions so various and of shapes so different, and of kinds so numerous that a box suitable for one will not answer the needs of others. If such a thing as regular sizes were established, it would at once become necessary to have two specials to one regular to accommodate the trade. The manufacturer of an article insists upon a box that will fit, protect and carry his article, and he will take no other kind. A box too small cannot be used, and one too large is wasteful in space, packing material, drayage, and freight charges. Because of this, no great success has attended the efforts put forth to standardize packing boxes.

The thickness of box lumber can be no more standardized than the size and shape of the box can be; because woods vary so much in their strength and their ability to hold nails. One wood of a certain thickness might be sufficient to meet all demands, but another cut to the same standard of thickness would be wholly unsatisfactory.

Much consideration is given to the weight of the material of which boxes are made, because most boxes are sent to market by freight or express, and carrying charges are levied according to weight. That holds true whether the lumber is shipped before being made into boxes, or whether the shooks or the empty boxes are transported, or whether the boxes are weighed and are figured in the freight bill as they carry merchandise to market. Freight must be paid on every pound, box, contents, and all. At a very moderate estimate, the boxes manufactured annually in the United States weigh 3,000,000 tons; and if an average freight rate is six dollars a ton when these boxes are shipped, the total bill is $18,000,000 a year.

By using a light wood for boxes, many tons can be saved by large shippers. White pine exceeds any other wood in the quantity made into boxes. It is only a little more than half as heavy as oak. Red gum exceeds any other hardwood in amount converted into boxes, and this wood is moderately light. Weight is, of course, only one of the qualities considered in selecting woods for boxes, but it is an important consideration.

Of the annual consumption in the United States by boxmakers of 4,600,000,000 feet, board measure, more than 3,000,000,000 feet are softwoods and the hardwood is about half as much. Pine contributes more than half of all. Every species of pine that occurs in commercial quantities in this country goes to box factories, a score of species at least;

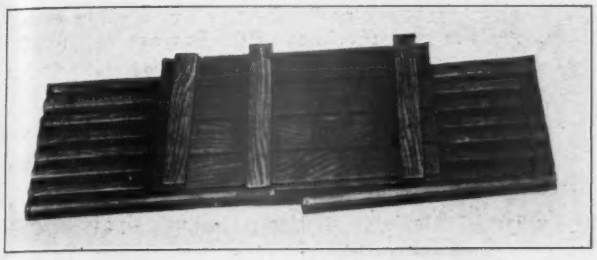


HICKORY AND SASSAFRAS IN RUSTIC BOXES

Flower and fern boxes for porches and window sills belong in a class to themselves. Fashion and custom require that they be ornamental, odd, and attractive. Boxes of this kind are shown in the accompanying cut, copied from the catalogue of the Old Hickory Chair Company, Martinsville, Indiana.

but official statistics group all pines under four names as shown in the following list:

Northern white pine	1,131,969,940	Sugar pine	24,686,000
Southern yellow pine	1,044,993,123		
Western yellow pine	288,291,927	Total	2,489,939,990



THE COLLAPSIBLE CRATE

It is commonly understood that a box or crate, when it has been used once, is never sent back to be refilled. The return freight charges are too high. But if the container can be "knocked down," and shipped flat to economize space, the transportation cost will be one-third to one-fifth as much as if the article were shipped in the bulky form.

Other softwoods which contribute material to the box industry are shown in the list below, the figures representing the number of feet reported yearly:

Spruce	335,935,643	White fir	3,142,080
Hemlock	203,526,091	Cedar	2,512,150
Balsam fir	40,172,700	Redwood	2,439,500
Cypress	38,962,895	Red fir	1,328,330
Larch	7,470,300	Alpine fir	500,000
Douglas fir	7,349,840		
Noble fir	6,653,500	Total	649,994,990

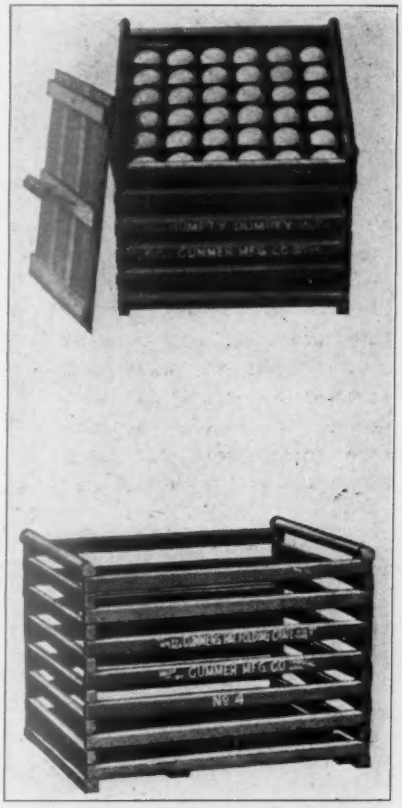
The list of hardwoods is longer but several of them are employed in relatively small quantities as the following table shows, the figures, as in the preceding tables, representing the annual amount in feet:

Red gum	402,121,640	Magnolia	5,499,000
Cottonwood	210,519,509	Buckeye	3,174,028
Yellow poplar	165,416,737	Hickory	767,920
Maple	96,831,648	Butternut	578,000
Birch	90,787,900	Cucumber	524,000
Basswood	86,979,611	Hackberry	315,000
Beech	77,899,280	Cherry	170,500
Tupelo	74,982,910	Black walnut	163,250
Elm	63,726,458	Silverbell	91,308
Oak	56,362,111	Mahogany	13,000
Chestnut	36,216,700	Ailanthus	5,000
Sycamore	16,451,693	Mountain ash	5,000
Ash	10,004,600	Yucca	3,500
Willow	10,507,600		
		Total	1,410,117,611

It has long been the custom to regard the manufacture of tobacco boxes separate from others, and the table below gives the consumption of wood in the production of such containers. Most of the output is for cigar boxes, the remainder being for plug tobacco. The figures represent feet per year:

Spanish cedar	30,203,068	White pine	199,425
Tupelo	10,376,217	Mahogany	161,200
Yellow poplar	7,358,919	Maple	96,450
Red gum	6,898,217	Magnolia	75,000
Basswood	4,206,250	Redwood	61,000
Elm	1,809,000	African cedar	36,600
Cypress	1,559,127	Cottonwood	6,750
Sycamore	430,000	Circassian walnut	250
Oak	403,200	Rosewood	100
Red cedar	246,750		
		Total	64,127,423

Spanish cedar supplies nearly half of all the cigar box lumber. The wood comes from the West Indies and Mexico, and possesses peculiar qualities which fit it for cigar boxes, chief of which are its odor and its handsome appearance. It is not a softwood in the sense of being a needle leaf species. The leaves and the general appearance of the growing tree suggest black walnut, while the wood resembles mahogany in color and grain. That listed as African cedar is probably one of the so-called West African mahoganies. Cigar boxes are usually the product of factories which make nothing else. Some of the boxes are of solid cedar, but most of them consist of thin sheets of this wood glued upon thin boards of tupelo, yellow poplar, red gum, or basswood. The cheaper grades of cigar boxes are of imitation cedar, that is, other woods stained or printed to look like cedar. A few costly woods are listed in the tobacco box industry, among such being mahogany, rosewood, and Circassian walnut. They are for fine cigar boxes and cost is a matter of minor importance in consideration of the high sales price.



THE EGG CRATE'S PECULIAR PLACE

More planning is put into the manufacture of an egg crate than into most other shipping containers, because its value depends wholly upon its ability to deliver the goods undamaged. Eggs break easily. Crates have been devised for this particular line of shipping, and competition is keen among makers.

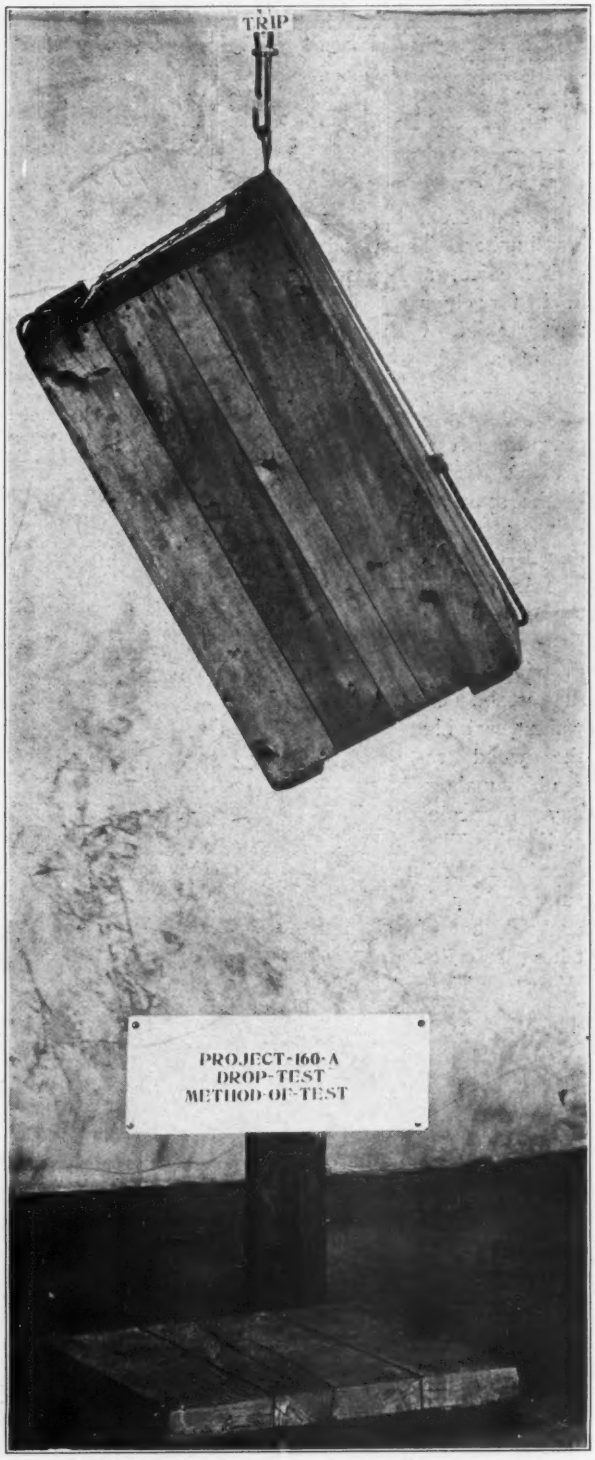
VEGETABLE BASKETS STACKED TO DRY

Persons who compile statistics of the wood-using industries have never reached an agreement whether baskets belong with barrels or boxes. They seem to come in between as to construction and also as to use. The baskets in the above picture are the output of a factory in South Carolina and are made of pine.

How widely the box industry is dispersed is shown

by the following list of states with the number of feet of box lumber consumed in each annually. Each of these sixteen states requires more than 100,000,000 feet of lumber a year to keep its box factories going, and the aggregate is 3,594,000,000 feet yearly, 78 per cent of the whole box production of the United States.

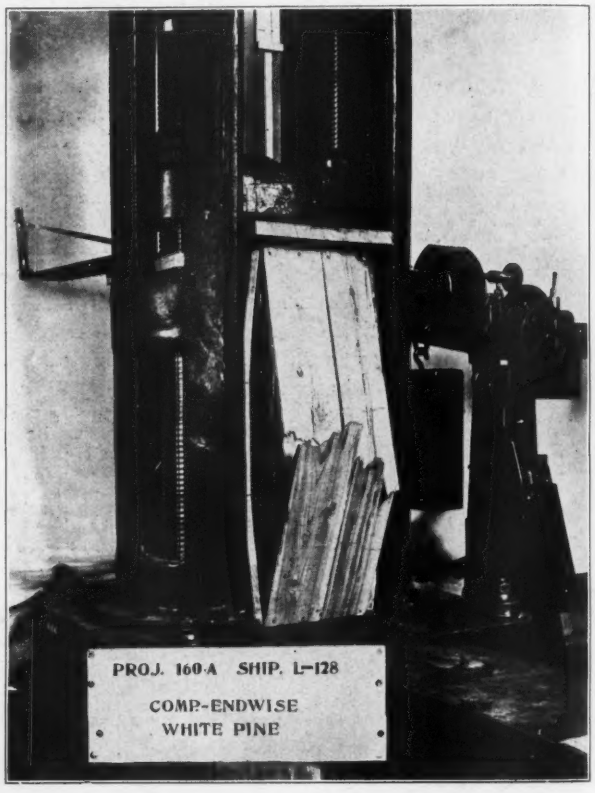
Virginia	434,000,000	Ohio	158,000,000
New York	400,000,000	Maryland	147,000,000
Illinois	391,000,000	Wisconsin	124,000,000
Massachusetts	353,000,000	Missouri	117,000,000
California	310,000,000	Kentucky	114,000,000
Pennsylvania	286,000,000	Arkansas	111,000,000
Michigan	234,000,000	Maine	109,000,000
New Hampshire	200,000,000	New Jersey	106,000,000



TESTING BOXES BY DROPPING THEM

The accompanying cut represents an apparatus built by the United States Forest Service to determine how much dropping certain makes of boxes will stand. It is too well known that during transportation many boxes are pitched from drays, cars and boats, and the shipper wants to know in advance whether his boxes are strong enough to stand the punishment.

Most boxes are broken up and destroyed after being used once, yet the trade in the second-hand article is quite large. Dealers in cities make a business of collecting them and making repairs, then selling them to manufacturers and other large shippers who refill the boxes and send them out again as carriers of merchandise. Sometimes large department stores systematically collect and repair boxes and shipping cases for their own use. They operate sanding belts for removing all lettering and scars, after which the boxes are restenciled and go out, looking like new. However, the journey's end for most boxes is in the kindling wood shed. Attempts have been made to draw the nails and salvage the lumber, but no great success has attended such efforts, because the pieces are too small for gen-



THE CRUSHING STRENGTH OF BOXES

If packed boxes are stacked high, one upon another, those near the bottom may be crushed by the weight of those above. It is important to know how much a box of a particular kind will stand, before the risk of having it crushed is assumed. The testing machine in the above cut was devised in the Government laboratory at Madison, Wisconsin,

eral use, and buyers are too few and far apart.

The box-making business is carried on in every state, though in Wyoming no statistics are available to show the size of the industry. Figures can be had for all other states. Two factors, profoundly influence the manufacture of boxes in a region; timber, and demand for the boxes. The latter is the more important, for if the demand is strong, lumber will be brought in and boxes will be made. Illinois affords a good example of this economic tendency. The state has little timber of its own, yet Illinois leads all other states, except Virginia and New York, in the manufacture of boxes, and it brings 98 per cent of its box lumber from beyond its borders. Virginia affords an example of the opposite condition—where boxmaking is influenced by abundance and cheapness of timber. Virginia box factories send shooks and empty boxes to manufacturing centers further north, because cheapness of timber and favorable freight rates permit it. Nevertheless, the orchards and truck gardens of Virginia are large users of boxes made in the state.

THE TUMBLING TEST FOR BOXES

Makers and users of boxes wish to avoid risks of breakage in shipments and the attending losses and delays. Consequently, they test the kinds of boxes they expect to use to determine how much they will stand. Above is a cut of a machine for giving the tumbling test. The apparatus was designed by the Forest Service Laboratory at Madison, Wisconsin.

YOUR WALNUT WILL HELP WIN THE WAR

THE War Department authorizes the following statement from the Bureau of Aircraft Production:

More American walnut is needed for airplane propellers and gunstocks. During the four years' test in the present war this wood has proven to be the best material for the manufacture of the above articles.

The Government needs all the walnut that can be secured during the continuance of the war, but it does not buy the wood direct, as not all of it can be used for the above purposes. Mills holding Government contracts for gunstocks or propellers are anxious to purchase walnut trees and logs, and the Government urges the owners of trees or logs to sell them to the sawmills. Owing to their inability to purchase sufficient walnut logs, the sawmill proprietors have not been able to supply the present requirements of this Government and the Allies.

And Every Tree Counts

"Fight with your walnut trees," is the new slogan of the Hardwood Section, Bureau of Aircraft Production, and the Small Arms Section, Ordnance Department. Half a dozen trees will provide lumber for a propeller and supply gunstocks for a platoon of infantry. The lack of one plane in the air or a platoon in the front line might lose a battle. Every tree counts.

If you have walnut trees 12 inches or more in diameter, write to Capt. R. L. Oakley, Production Division, Small Arms Section, Ordnance Department, Sixth and B Streets, Washington, District of Columbia. He will advise you where you can sell your walnut at a fair price.

A SHASTA LEGEND

BY LUCY HUGHES DOAK

There's a legend full of magic
Which the Indians love to tell,
How from leaves the Mighty Spirit,
Formed the birds we love so well.

When the world was in creation
Mountain tops did first appear,
And His steps here first descending,
Blessed the heights since held so dear.

From the dome of Shasta Mountain,
On that new creative morn,
Viewed He every vale and fountain,
In the silence of the dawn.

And, wherever fell His footprints,
Sprang a tree in virgin soil;
Clothed were they in shimm'ring green tints,
Casting shadows over all.

As weeks spread they grew in beauty,
Changed as if by magic spell;
But as still they glowed more brightly,
Softly to the earth they fell.

"Stay, O, stay—you must not leave me—
You're too beautiful to die;
Into feathered sprites I'll change you,
Giving wings that you may fly."

Paused the leaves as if to listen,
Floating buoyantly along—
In the sunshine, rose and fluttered—
Bursting into joyous song.

When you see bright plumage darting
In and out among the trees,
Think of Shasta Indians dreaming
That the birds were formed from leaves.

This is why in trees they're building,
For here's guarded safe the nest;
Strong arms fold them as if shielding
Close up to the mother breast.

Guard ye well the trees of forest.
Give protection to the bird.
Twixt these there has been close kinship
Since the forming of the world.

UPLAND GAME BIRDS: TURKEYS, QUAILS AND PHEASANTS

(Families Meleagridae, Odontophoridae and Phasianidae)

BY A. A. ALLEN, PH.D.

ASSISTANT PROFESSOR OF ORNITHOLOGY, CORNELL UNIVERSITY

WHY our Thanksgiving bird bears the name of turkey will always be a mystery. So long ago was it christened that we can never expect to learn whether the nom-de-plume originated in some mistaken notion of the bird's native land or whether it was given it in an effort to translate its call of "turk-turk-turk." At any rate, turkey it is and always will be, to the small boy with a drumstick in each hand or to the scientist who writes after it *Meleagris gallipavo*.

There are two species of wild turkeys, but the second, called the ocellated turkey, will doubtlessly never become of importance outside of museums because it is restricted to the peninsula of Yucatan and a small portion of the adjacent parts of Guatemala and Honduras and shows no propensities tor domestication or artificial extension of its range. Nevertheless it is a beautiful bird, smaller than the common wild turkey with purplish reflection on its back and with eyelike spots on its tail in addition to the typical bands. The body feathers are tipped with brilliant golden and coppery bronze and the head and wattles are deep blue covered with orange tubercles. In its brilliancy, it is quite suggestive of some of the pheasants.

THE PHEASANT IS AN ORNAMENTAL BIRD

It is easily naturalized and is very attractive on spacious lawns.

The common wild turkey which was originally found from Maine and Southern Ontario to Southern Mexico, varies to such an extent in different parts of its range that five recognizable forms or sub-species have been described; one from Southern Mexico, one from Northwestern Mexico and Colorado, one from Northeastern Mexico and Texas, one from Southern Florida, and the common wild turkey, found from Georgia to Maine and Ontario. It is from the South-Mexico bird that our domesticated turkey is descended, the tail coverts and bands in the tail of each being gray while corresponding parts of the common wild turkey are a rich chestnut. It is supposed that birds domesticated by the Indians were brought back to Europe by the Conquestadores because they had become established in many parts of Europe as early as 1530. Domesticated birds were brought to Eastern North America by the early colonists and many of them, it is believed, hybridized with the wild turkeys, as they still do where opportunity offers, until in some places, where the wild turkey is still found, it is rather difficult to find pure wild blood.

The wild turkey was originally an inhabitant of the open woodlands of all the Eastern States and those as far west as Kansas and Oklahoma. Today it has been exterminated in New York and New England and is confined to the rougher and more remote portions of Pennsylvania and Virginia, the larger swamps of the Southern States and the thinly settled portions of the Mississippi Valley and is everywhere fast following the passenger pigeon and Carolina parroquet into history.

It is possible, however, to breed the wild turkey in captivity and several wild turkey farms are in existence. The State of Pennsylvania is trying to restock its wilder game coverts with these magnificent birds and has released numbers of them obtained from these game farms. It is to be hoped that the experiment will be a success and that New York and New England will follow the lead and bring back the noblest of American birds.

In their habits, the wild turkeys are not very different from the domestic birds. Except during the breeding season, they live in small flocks of from six to twelve individuals of both sexes, feeding upon acorns, nuts, etc., and ordinarily roosting in the same trees each night. At the beginning of the breeding season in March, the flocks disband and the males begin to gobble. Gobbling takes the place of the drumming of the grouse or the crowing of the rooster and usually is heard only early in the morning before the bird leaves the roost. When he has been successful in attracting a female, he struts and displays like the domestic bird. Turkeys are polygamous and frequently rival males engage in fierce battles, the victor becoming lord of the harem. After incubation begins, the males lose their animosity toward each other and again flock together leaving the cares of the family entirely to the females.

PROUD AS A PHEASANT

The peacock is a member of the pheasant family and all its members seem to have considerable family pride. The Ringnecked pheasant is a hybrid between the English pheasant and the Chinese ringneck and was brought to this country from England where it originated.

The wild turkey is our largest and finest game bird. With the increase of agriculture and the disappearance of our forests, it is to be expected that its range will be greatly restricted, but as long as we have National and State forest preserves and rough country that the plough cannot turn, we should have wild turkeys. Greater effort should be made by the National Government and the various state conservation commissions to save the remnant of these splendid birds and to reintroduce them into our game refuges and sanctuaries. Let our children's children feel the thrill that stirred our forefathers when they heard the distant challenge of the old gobbler, heard his rush of wings as he made off through the forest, or came suddenly upon a troop of them picking beech nuts in some forest glade.

The American Quail (Family Odontophoridae)

At the other extreme in size from the turkeys among the upland game birds are the quails. Some of the Old World species are no larger than sparrows and none of our American quails are as large as pigeons. The American quails, which differ uniformly from the true quails and partridges of Europe in that the cutting edges of the bill are serrate or finely toothed instead of being smooth, and likewise in the entire absence of spurs on the legs, number about 100 species. The majority of these are confined to the tropics, but seven species are known north of the Mexican boundary. Of these, the bob-white is the best known in the East and the California quail on the Pacific coast.

The bob-white is native as far west as Colorado, but has been introduced into New Mexico, Utah, Idaho, California, Oregon and Washington. It has always been a favorite game bird and throughout the South has been fairly well able to hold its own. Of recent years, however, because of its destruction of the cotton-boll weevils and other destructive insects, a sentiment has been growing up in favor of removing it from the game list and some states are now giving it complete protection. Its cheery call of bob-white, is the most musical of any of the notes of the game birds, which, together with its confiding habits and insectivorous diet, is almost enough to put it on the song bird list. When hunted, however, it becomes almost as wary as the grouse and in the many states where there are no grouse and pheasants do not seem to do well, there is nothing to take its place as a game bird.

Except during the breeding season, bob-whites are found in covies which are usually members of one family though sometimes where food is abundant, the different covies join forming large flocks. They feed about open fields, hedgerows and even about gardens. When alarmed, they usually run together before taking wing and then get up with a rumble that is quite confusing. At night they form a close circle, their little tails together and their heads pointing out, a veritable bomb ready to explode at the approach of an enemy.

The bob-white is not polygamous as are the grouse and turkeys, and the male bird is a conscientious father and helps incubate the eggs and care for the young. The nest is a mere depression in the ground beneath a fallen branch or any place where the dried grass is thick enough to help form the arch or roof which usually conceals the eggs from above. The eggs num-

ber from ten to eighteen and are the whitest and most pointed of any of the gallinaceous birds.

The "bob-white" call is seldom heard after the eggs are hatched for in its place another is given that helps keep the family together. They remain together, unless scattered by hunters, until the following spring, never migrating but often moving in from the fields to the wooded bottom lands and alder thickets for the winter. The winters in New York and New England are often too severe for them for the deep snows cover all the weeds and fruit-bearing shrubs and the bob-whites have not learned to mount into the trees and live upon buds as do the grouse.

The male bob-white can be distinguished from the female by the white throat and band over its eyes, the markings of the female being buff. The bob-whites of Florida are considerably smaller and those of Texas are grayer and they have been separated into different races. In Southwestern Arizona and adjacent Mexico lives a curious bob-white with a throat that is black instead of white and with chestnut underparts. It is called the masked bob-white.

AS THE PHEASANT CONCEALED IT

Here is shown a hen pheasant on its nest in the meadow. None of the surroundings have been disturbed and the bird is very difficult to see on its nest.

In the Rocky Mountain region and the Pacific States, the bob-white is replaced by the California quail. It is a very different looking bird, being bluish-gray rather than brown and having its head adorned by a few curious recurved feathers that are bare at the base and swollen at the tip so as to resemble a jet ornament rather than a crest. In the interior of California and Oregon, the birds are paler and grayer and have been separated into a different race and called the valley quail. In the arid parts of the West from Texas to Southern California, there is a quail quite similar to the California quail but with chestnut flanks. It is called the Gambell's quail. The plumed or mountain quail is a larger bird with a crest of a few straight feathers. It is a shyer bird, seldom coming near habitations, and preferring the open forest or chaparral growth on the mountains. As with the California quail, the birds inhabiting the humid coast region are much darker and those on the more arid ridges grayer. To distinguish them, the name mountain partridge has been given to the former and plumed partridge to the latter.

AS THE PHOTOGRAPHER REVEALED IT

The same bird as shown in the preceding picture, but the grass has been pressed down all about it.

Two other quail are found in the West, the scaled partridge and the masked quail. They are found in the desert country from Western Texas to Arizona but the former is much the more abundant. The scaled partridge, blue quail or cotton-top as it is variously called is gray in color, the feathers of the neck and breast edged with black giving it a curious scaled appearance. Partially concealed on the crown is a tuft of white feathers that give it the name of cotton-top. The masked or Mearn's

quail is smaller than the bob-white and has its black under parts spangled with white spots and its head curiously striped with black and white.

All of these quail, with the possible exception of the Gambell's, have been giving way before the advance of agriculture and the ever increasing number of hunters. In spite of their great reproductive capacity, the laws regulating the open seasons and the number that can be killed will have to be stiffened to make up for the increasing number of hunters and their decreasing range. One encouraging feature is the fact that they

Photograph by G. C. Embody

AT HOME IN THE GARDEN

The male Bob-White stays at home by the garden gate while Mrs. White goes to a garden party.

are now being bred in captivity and each year sees the methods employed on the game farms reaching greater perfection and larger and larger numbers being raised. It is with the pheasants however, that game farming has reached its greatest perfection and succeeded in adding a valuable bird to the faunas of many states of the Union.

The Pheasants (Family Phasianidae)

Were it not for the game farmer, we would not be considering the pheasants in this series of articles, for none of them are native to North America. There are about 100 species of true pheasants found through Central and Southern Asia to the Malayan region. The majority are brilliant birds, though the females are dull, and many species are seen in the aviaries in this country. The resplendent golden and Lady Amherst pheasants, from Western and Southern China, with their wonderful capes and arched tails are perhaps the most brilliant of all. The golden pheasant has been released in Western Oregon and on Protection Island, Washington with some success, and the silver, the copper, and the green pheasants, also, but the only one that has been really successfully naturalized is the ring-necked pheasant which may now be considered a member of the faunas of at least 25 states.

The ring-necked pheasant is not a real species but is a hybrid between the English pheasant (*Phasianus colchicus*) and the Chinese ring-neck (*P. torquatus*) and was brought over from England where it originated. The male is a very ornamental bird with a bright metallic green head and a more or less continuous white ring around the neck. Its breast is a rich coppery chestnut, its back marked with gold and chestnut, the rump being greenish gray and the long tail banded with rich brown and buff. The female is light brown, spotted with darker on the back and were it not for her long pointed tail, might be confused with some of our native grouse.

Naturalizing a foreign bird or animal in any land is

NOT A TURKEY TROT—BUT A PHEASANT STRIDE

All the gallinaceous birds make a track similar to this—the toes spreading more than 90 degrees—and the hind toe barely recording. The grouse and bob-white, however, usually drag their toes and seldom make a clean track like the pheasant.

a risky undertaking as evidenced by the English sparrow and the starling in this country which have increased far beyond control and instead of functioning, as intended, in the destruction of insects, are rapidly replacing more valuable native birds. The naturalization of the pheasant seems to present no such difficulties, for although it is likely to become destructive to crops when too abundant, it will always be such a valuable addition to the food supply that the slightest re-

laxation in the laws regulating its capture would result in its extermination. Each bird weighs about three pounds and would always market for a price that would pay for considerable effort on the part of hunters. If it ever should be necessary to reduce its numbers quickly, there would be no difficulty in doing so. The problem of the smaller sparrows and starlings is quite different for they are not large enough or good enough to repay the hunter even for his ammunition. Nor is there any danger of the pheasant replacing any of our native game birds. It is a bird of the open fields and hedge rows and might in a measure compete with the bob-white except that it does not do so well in the South where the bob-white does best. In the northern states it does not compete with the ruffed grouse because they live in different habitats, so that all in all, it is surely a valuable addition to our upland game birds.

LEADING HER CHICKS AWAY

The little fellows are sneaking through the grass and cannot be seen, but the old bird is alert to every danger.

JUST OUT

This young pheasant was but three days old, but it had learned a lot in those three days and it was almost impossible to get his picture.

DONATIONS TO THE WELFARE FUND FOR LUMBERMEN AND FORESTERS IN WAR SERVICE

AMERICAN FORESTRY will publish each month the list of those making donations to this fund. Many of the donations from members of the American Forestry Association so far received were made without solicitation and were inspired by reading in the magazine that a relief and comfort fund for men of the forest regiments was being collected. Many substantial contributions are being received from the Forest Service and from lumber companies and lumbermen following requests sent to them by the Secretary of the Welfare Fund for Lumbermen and Foresters in War Service, by the lumber organizations of which they are members, and by the committees of lumbermen which had charge in various sections of the United States of securing enlistments for the forest regiments.

Contributions to the Welfare Fund to August 22, 1918, are as follows:

Previously acknowledged	$19,544.06
Basilan Lumber Company, Isabela, Basilan, Philippine Islands	50.00
Mr. Harry K. Eckert, Niagara Falls, New York	3.00
Gunnison National Forest, Gunnison, Colorado	7.50
Mr. Ralph S. Hosmer, Ithaca, New York	10.00
Mr. W. G. Howard, Albany, New York	5.00
Mr. W. H. B. Kent, Caznovia, New York	10.00
Mr. M. H. Lewis, New York City	10 00
Mrs. Barrington Moore, New York City	10 00
Mr. C. R. Pettis, Albany, New York	10.00
Mr. Julian E. Rothery, New York City	5.00
Contribution from Philippine Islands and adjacent territory, sent in by Mr. Arthur Fischer, Director of Forestry	723.50
Total	$20,428.06

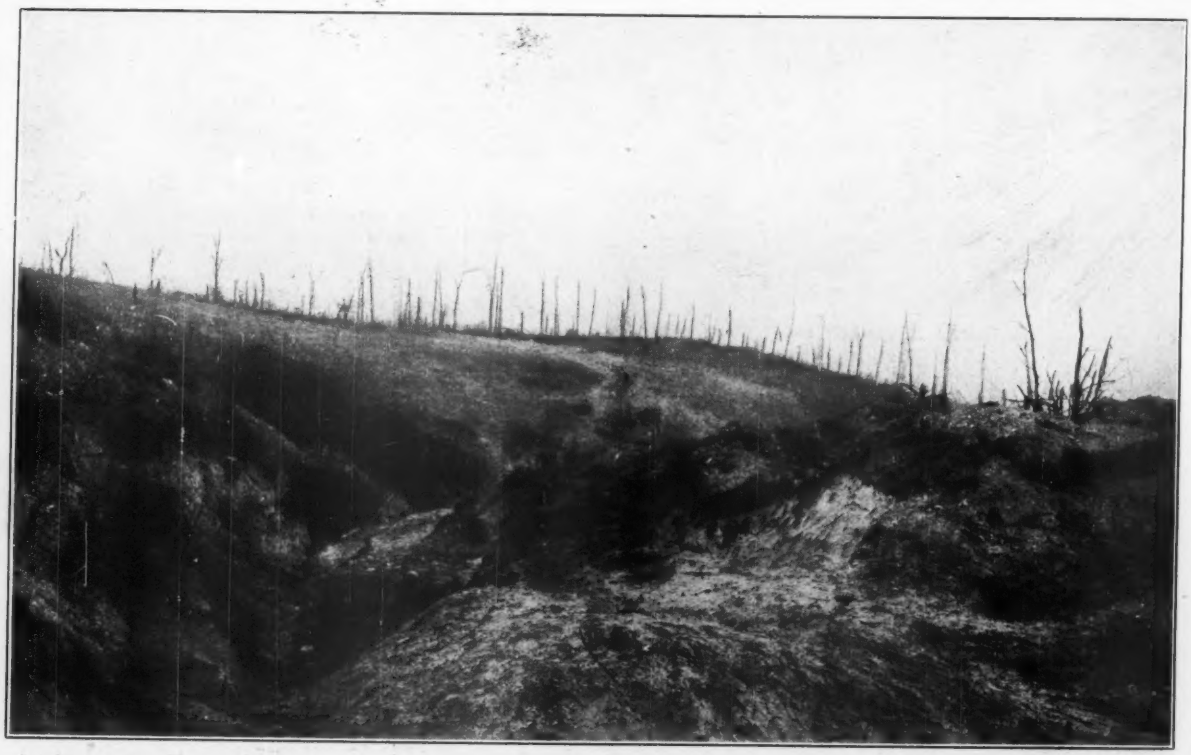
SHOW YOUR PATRIOTISM BY SELLING YOUR BLACK WALNUT TIMBER—BADLY NEEDED BY THE GOVERNMENT FOR PROPELLERS AND GUNSTOCKS

WILL FORESTS BE PLANTED ON OLD BATTLE FIELDS?

IN A special dispatch from the front to the Chicago *Daily News*, Paul Scott Mowrer asks: What is to be done with the zone of vast chaotic battle fields in France after the war? It has been said that this land will be eminently proper for cultivation, as its complete upheaval by shell explosions will have served to renovate the soil. Unfortunately, the matter is more complex than this. The war belt, varying in width from one to several kilometers, reaches right across France, from the sea to Switzerland. Most of this belt, being encumbered only with barbed wire entanglements, several net works of trenches and a scattering of shell holes, can probably be put under cultivation again within a year or so after the war. The work of cleaning up the ground will here not be insuperable. But in other places, such as Verdun, the Aisne plateaux and the Somme—regions which include thousands and thousands of acres of what was once farmland and pasture—the chaos is such that to restore it to agriculture seems almost out of the question.

In these regions, the shell holes touch one another, and some of them are ten or fifteen feet deep. The ground is kneaded with bits of hashed up barbed wire, and shell splinters, human bones and debris of every kind. Even granting that it would ultimately be possible to clear up this ground and level the shell holes, dugouts and remnants of trenches—a labor in itself nothing less than Herculean—there remains the danger of striking unexploded shells, which, lying just out of sight under the surface, might explode at first touch of the plow. There are thousands of such shells, all primed and needing only a slight jar to go off, buried in every one of the great French battle fields. As for the soil being rendered more fertile by the upheaval it has undergone, there is reason to think that in too many spots just the reverse will have occurred; instead of being more fertile, it will be less so, for the upper soil has been completely covered over by a thick scattering of subsoil blown up by the deep plunging shells. In short, it is doubtful if these regions can be brought under cultivation again.

It has been proposed to turn these regions into forest lands. The proposal is not without merit. It would solve many difficulties, and would be more practical, as many of France's rich forest reserves have been diminished greatly since the beginning of the war, to obtain wood for military purposes. The owners of land in the regions in question would doubtless object to turning these fields, some of which were formerly so rich, into forests, but when they begin to realize the practical difficulties in the way of attempting to begin cultivation again, and especially if they are offered suitable compen-



International Film Service—*French Official Photograph*

A TYPICAL FIELD OF BATTLE AFTER HEAVY BOMBARDMENT

In the region of Moulin de Laffaux, this field, over which the line of battle has passed—expressing now only barrenness and destruction—may one day be clothed again in forest green, and know once more "the peace of quiet aisles."

sation by the Government, they will, doubtless, see the wisdom of the proposal. Sentimentally, also, there is a reason for turning into forests these ever memorable

houses, carrying off furniture, tools, farm implements, livestock and poultry, and destroying what they had to leave behind.

International Film Service

RUINED FORESTS IN NO MAN'S LAND

A scene of desolation, shell-torn and ghastly, the remants of a once beautiful forest. There are thousands of acres of such devastated territory utterly unfit for agricultural development which may be replanted to forest after the war.

regions of death, where rest the shattered bones of so many thousands of brave men.

An effort was to have been made this spring to begin to cultivate the land again in the region wasted last March by the retreating Germans. The latter, it will be remembered, made a clean sweep of everything, burning the

One month after the German retreat the first horses for domestic use appeared in the devastated regions. The refugees who returned to their homes—and they were at first very few—brought about thirty horses in all. Two months elapsed before the arrival of the first cow. But now in the department of the Somme alone,

Underwood and Underwood—*British Official Photograph*

ANOTHER STRIKING EXAMPLE OF THE RUTHLESSNESS OF THE HUN

This is an official photograph and shows another stroke of German vandalism executed on the beautiful fields of France. Here the Boches have cut down the fruit trees so that nothing may interfere with their dastardly manoeuvers.

there are 800 cows, over 500 horses, thirty or forty oxen, 785 sheep, forty-five pigs, 250 poultry and three shepherd dogs—not a vast animal population for such a large region, yet a good beginning, everything considered. A number of goats have also been distributed, and a co-operative society of peasants has acquired fourteen additional cows. In respect to farm machinery, there were in the Somme region in February 150 reapers, 15 binders and reapers, 100 thrashing machines, 100 harrows, 28 farm wagons and 35 sowers. The army also had established a repair center where expert workmen tried to piece together machines destroyed by the Germans and where they expected to turn out 1,500 divers machines in this way. There have also been distributions of tools and small implements, such as churns. The emergency has served, among other things, to introduce American tractors. The peasants of the region of Nesle, Ham and Roye have acquired seven of these, and the ministry of agriculture has sent sixty to the department of the Somme.

A BOTANICAL APPRECIATION

OF THE many letters received by AMERICAN FORESTRY telling of the high appreciation in which the articles on botany, by Dr. Shufeldt, are held, the following is a recent example:

Branchport, New York, July 24, 1918.

Dr. R. W. Shufeldt,
Washington, D. C.,

Dear Sir:—I want to tell you how I enjoy your articles on the wild flowers in AMERICAN FORESTRY. That in the last number is especially interesting as I am very familiar with the form of the Lady-Slippers mentioned, *acaule*, *pubescens parviflorum* and *spectabile*. As you did not show a photograph of the latter, I enclose one from my collection. I visited a swamp June 19th last where we found more than fifty blossoms of this superb flower and there is another swamp near here where there are as many more plants.

Photograph by Verdi Burtch
THE SHOWY LADY-SLIPPER

Perhaps I might have some wild flower photographs that you would like to use in your articles, though mine all have the natural background and I note that in yours the background is eliminated. Dr. Allen is now using some of my bird photographs in AMERICAN FORESTRY.

Yours truly,
VERDI BURTCH.

ONE MILLION DOLLARS FOR FIGHTING FIRE ON NATIONAL FORESTS

THE President has authorized a loan of one million dollars to the Forest Service for fire-fighting expenses ,to meet the serious emergency conditions in the National Forests of the Northwest and the Pacific Coast States. The loan was made from the special defense fund of fifty million dollars placed at the disposal of the President by Congress. It is recognized that the protection of the National Forests is an important and essential war activity.

Forestry officials regard the present fire season in the Northwest as in some ways the most serious with which the Government has ever had to cope. Early drought, high winds, electrical storms, labor shortage, and depletion of the regular protective force as a result of the war have combined to make the fire conditions unprecedently bad.

Necessity for resort to the Presidential fund is due to the fact that the appropriation bill for the Department of Agriculture for the current year has not yet been passed.

GENEROUS DONATION FROM THE PHILIPPINES

UPON noticing the appeal in the AMERICAN FORESTRY Magazine for donations to the Forest Regiments Fund, Mr. Arthur F. Fischer, Director of Forestry for the Philippine Islands, secured permission from the Governor-General of the Islands to stir up sentiment and solicit subscriptions to the fund among the Islands and adjacent territory. Mr. Fischer's work was most effective and resulted in the collection of $723.50 from a list of contributors whose names we shall have the pleasure of publishing a little later on. The Committee deeply appreciates this substantial co-operation from friends so far away and their good wishes for the success of the welfare work for the boys of the lumber and forest regiments.

SELL YOUR BLACK WALNUT TREES AND HELP WIN THE WAR

GRASSES, SEDGES AND SOME SEPTEMBER FLOWERS

BY MAJOR R. W. SHUFELDT, R. A. O. U., ETC.

MEDICAL CORPS, U. S. ARMY

THERE are two great families of plants of which hundreds of species occur all over the world, far up towards either Pole, and which are especially numerous in the temperate zones. The first is the Grass family (*Gramineae*) and the second the Sedge family (*Cyperaceae*). Some of the species of these run very close together; though as a rule, after a little study, one finds no great difficulty in making them out. They have been studied in all countries by botanists for ages past with the utmost care, and as a consequence we find descriptions of them carrying a wonderfully extensive terminology. Not only do the species occur in great numbers, but we find a marvelously rich glossary of terms to name their various parts and characters. All this should not, however, frighten us away from the collecting and consideration of these most elegant, often dainty, and highly artistic representatives of the plant world.

THE LAW FORBIDS THE PLUCKING OF WILD FLOWERS IN ANY OF THE PUBLIC PARKS IN WASHINGTON, DISTRICT OF COLUMBIA; THEY FLOURISH HERE IN THE NATIONAL ZOOLOGICAL PARK.

This scene is just above Pierce's Mill, Rock Creek, and it is a favorite resort for the people of the National Capital.

In the United States there are many hundreds of different kinds of grasses and sedges, and the month of September is a fine one in which to collect and study them. As a matter of fact, we may commence such studies almost as soon as the spring opens, continuing with it the entire year round. For ordinary investigation, and for the purpose of identifying species, we have an excellent text book in the seventh illustrated edition of Gray's New Manual of Botany, which is a handbook of the flowering plants and ferns of Central and Northeastern United States and adjacent Canada. (1908.) In this very useful work, the Grass and Sedge families have been revised and illustrated by Prof. A. S. Hitchcock. Nearly every genus has a typical species, or rather its essential characters, figured, which greatly facilitates the matter of identification; while additional and very essential assistance is rendered by the voluminous glossary at the end of the volume. The illustrations are especially helpful, and through them we may, in most cases, identify almost any species of grass or sedge of the New England or Middle States' flora.

When fine specimens are collected, suitable for pressing and properly mounting in a botanical album, the study of these beautiful plants is most fascinating, not to say useful and important. Either family is divided into numerous tribes, genera, and species, while in the case of the Grass family at least two subfamilies are usually recognized.

In the present article it is not my intention to enter very extensively into this subject; but on the other hand it will be of interest to present a few specimens, in that the reader may appreciate not only what beautiful pictures we may obtain from such by the use of the camera, but also to illustrate their wide variation, delicate structure, and attractive appearance. The species figured are all abundant types in many parts of the eastern United States, and we may collect, in an afternoon's ramble, scores of other species equally beautiful.

THIS GRASS IS KNOWN AS LYME GRASS OR WILD RYE

Fig. 1—All the grasses of the genus *Elymus* are, for the most part, of this dainty order; this is probably the species known as the Canadian Lyme Grass (*Elymus canadensis*).

One group or genus of the grasses are known as the Wild Ryes or Lyme grasses (Fig. 1); there are some ten or a dozen species of them in the northeastern section of the country, and they have been grouped in the genus *Elymus*—a term derived from the Greek, and which was applied in ancient times to some sort of grain or other. The Canadian Lyme grass shown in Figure 1 flourishes generally in sandy soil from Nova Scotia, westward to Manitoba, and southward to the Gulf. A subspecies of it, known as *E. c. glaucifolius*, has been described, but it is difficult to distinguish it. Some of the species of *Elymus* are very distinct and readily recognized, as the prairie species known as Macoun's Lyme grass (*E. macounii*), which is found to be more or less abundant in Minnesota and Iowa and from thence westward.

Another exquisite and very abundant species of sedge is found, with many others, in the extensive genus *Cyperus,* and a pretty illustration of it is shown in Figure 2, it being *C. hystricinus,* described by Fernald. It may be known as the Spiny galingale—Galingale being the common or vernacular name applied to these sedges, the species of the genus *Cyperus.* As a rule, the various species are found growing during the summer in sandy barrens, waste fields, or dry woods. Only a few grow in rich soil, as *C. echinatus,* found in Virginia to Missouri and southwards. The sedges of this group are very striking and not difficult to identify, notwithstanding the fact that some of them run pretty close.

Very frequently we find a number of different species of sedges and grasses growing together in the same area; in fact we may often gather half a dozen of either group in an area of an hundred square feet, if the soil and conditions be favorable; this renders their collecting especially interesting and attractive. For example, where we met with the just-described species growing luxuriantly, we may often find the related species known as *C. ovularis* flourishing; it is shown here in Figure 3. It is readily recognized by its globular heads and the distinctive character of its other structures. In fact, in this part of the United States we have no other sedge wherein the heads are as globular as in this species. In waste ground around the city of Philadelphia we meet with a species that appears to have been

SEVERAL OF THE SEDGE FAMILY (*Cyperaceae*) HAVE THE FORM OF THIS ONE

Fig. 2—An example of *Cyperus hystricinus* from Maryland; it is more or less nearly related to such sedges as *C. lancastriensis* and *C. dipsaciformis.* The beautiful caterpillar shown is the larva of our well-known Io moth (*Automeres io*). It was in this exact position when the plant was collected.

NEARLY EVERYONE IS FAMILIAR WITH THIS CHARACTERISTIC SEDGE (*C. ovularis*), A MOST ABUNDANT SPECIES.

Fig. 3—Sometimes the heads are double, as is here seen on the largest ray to the left.

introduced from the tropics; it is the Yellow Cyperus (*C. flavus*), and it may be easily identified by its ovoidal heads, three or four-clustered, and sessile at the point where the leaves spring from the upper end of the stalk. All of the so-called "Rushes" fall in this great sedge family, as the bulrush or club rush; the bald rush, and the numerous spike rushes. There are many handsome species of them, perhaps none are more so than the ones grouped in the genus *Uniola*, as *U. latifolia*, a most graceful spike-grass found growing, according to Gray, on "shaded slopes and in low thickets from Pennsylvania to Kansas and southward, appearing in August and September," as we see it in Figure 4 of this article. This particular specimen was collected on the low land, close to the water's edge, of the Potomac River, on the District side, not far from Chain Bridge nor more than a mile from the Washington Monument. It is not abundant in this part of the country, and some of our botanists hardly believed that it grew in this section of the country at all. A species closely resembling it (*U. paniculata*), known as Sea Oats, is found growing along the Texan coast where the sand dunes occur. This species extends its range into Mexico and South America, and is sometimes collected by travelers and brought to northern homes in ample bunches, on account of its highly decorative value.

SPIKE GRASS IS ANOTHER BEAUTIFUL SPECIES OF SEDGE, OF WHICH THERE ARE SEVERAL KINDS KNOWN

Fig. 4—*Uniola latifolia* is the name that has been given to this spike, and it is not a very abundant species.

Often, while rambling through the woods in September, one comes across such a plant as is shown in Figure 6. Note the beautiful bunch of berries it bears; they are quite aromatic, as round as bird-shot, of a rather pale reddish color, and exquisitely speckled with a darker shade. The leaves are of a fine green, and remind one of those of the lily of the valley—another attractive plant, to which this one is more or less related. Observe that their venation is arranged horizontally, and that the leaves spring above another from the stem. This plant is a fruiting specimen of the Wild Spikenard, and a brief study of it will throw light upon some very striking species. Wild Spikenard is also called False Solomon's Seal—and for a reason which will soon be made clear. We usually meet with it in moist woods, sometimes on hillsides, and occasionally in thickets. Rarely does it flower later than in July in the Mid-Atlantic States; and should we pull up one of these plants, it will be noted that it has a rather thick, more or less fleshy rootstock. A rich terminal raceme of faintly fragrant, pale greenish-white flowers characterizes the flower-head of the Wild Spikenard, and by the use of a hand-lens we may see that any one of these flowers possesses six stamens and a single pistil. Usually the plant has a height of about a foot and a half, while still other specimens may grow to be more than a yard high. Sometimes the head is quite small, as is shown in Figure 7, in the right-hand plant, and occasionally the stem is zig-zag, so that country people often call it the Zig-zag Solomon's Seal.

THERE ARE SOME CURIOUS PLANTS IN THE LILY FAMILY (*Liliaceae*), AND THIS IS ONE OF THEM

Fig. 5—Our False Spikenard (*Smilacina racemosa*) is generally found growing on banks where considerable moisture is present, and its flowers are sometimes faintly fragrant.

THESE ARE THE BEAUTIFUL GLOBULAR BERRIES OF THE SPIKENARD SHOWN IN FIGURE 5

Fig. 6—Note how very closely the leaves resemble those of the lily of the valley, to which plant it is nearly related.

In the matter of flowering, the true Solomon's Seal differs widely from the plant just described as the False Solomon's Seal—a most stupid name, as the plants are very distinct and easily told apart; this may be appreciated by a study of Figure 7. They may frequently be

found growing near each other; so that, in September, we often have an opportunity to compare their different berries right on the ground. When the berries of the true Solomon's Seal are of full size, they are dark green and very round. Usually they are suspended in pairs below the leaves, as we would naturally expect to find them from the position of the flowers. Once in a great while we meet with a plant wherein the first two or three berry-bunches are in threes instead of twos, and I have a beautiful picture of a plant showing this. Many species of birds feed on the fruit of the False Solomon's Seal, and in this way contribute to the wide distribution of this species. There is also a Small Solomon's Seal

HERE WE HAVE SOLOMON'S SEAL COMPARED WITH THE FALSE SPIKENARD, BOTH PLANTS BEING IN FLOWER

Fig. 7—Solomon's Seal, of which there are two species, is shown to the left in this picture; the other plant is the Spikenard, being a specimen with a very small head.

(*Polygonatum biflorum*), which occurs on wooded hillsides over the greater part of the eastern United States, and as far westward as Texas and Kansas. Besides being related to the lily of the valley, these plants run into the Wake Robin (*Trillium*), of which we have many species. They are also related to the Green-briars and Carrion flowers, described in previous issues of AMERICAN FORESTRY. *Clintonia borealis* and *C. umbellata* are also related to it, as are several other plants, such as the bellworts (*Uvularia*), also described in these pages. Indeed, taken as a whole, it is a most interesting group, and well worthy of careful study. Alice Lounsberry says: "There is no doubt but that the round scars, left on the rootstock of the Solomon's Seal by the dead stalks of the preceding year, do resemble the impressions made by seals upon wax; but wherein these seals resemble those

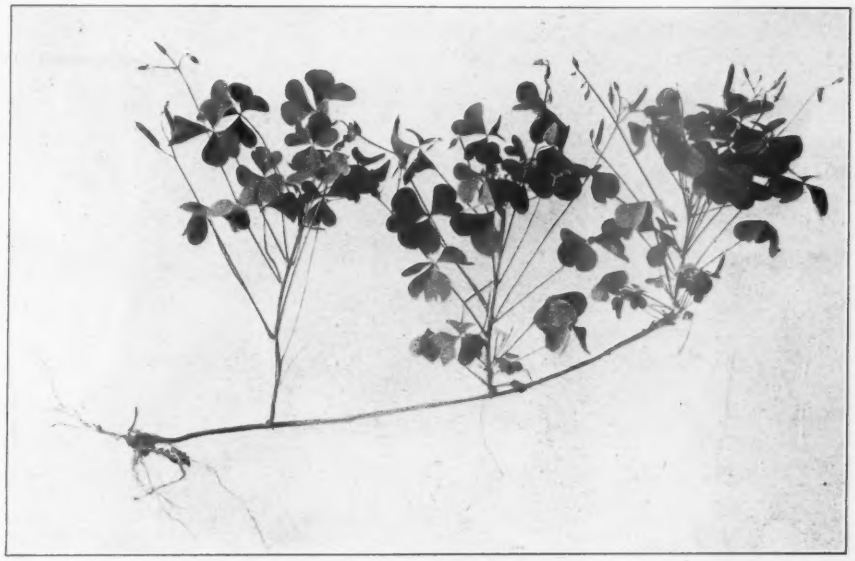
THIS IS THE TERMINAL SHOOT OF THE SAME PLANT SHOWN IN FIGURE 8. NOTE THAT THE SEED PODS ARE ERECT

Fig. 9—In the Atlantic States we have but eight or nine species of these wood sorrels; the abundant species here shown has yellow flowers. In the common Wood Sorrel they are rose colored or purple.

used by Solomon, is still a mystery to many." There is probably no truth whatever in it; hundreds of such fanciful names have been bestowed upon the structural parts of both plants and animals without the slightest foundation in fact, as may be noted by skimming over some good work on human anatomy.

Another pretty group of September flowers—indeed they may be in bloom from May to September—are the Wood Sorrels. They make up the Wood Sorrel family (*Oxalidaceae*), and different species of them occur in various parts of the world. They are related to the Geranium family (Cranesbill) on the one hand, and to the Flax family on the other (*Linum*). For the central and northeastern parts of the United States and Canada Professor Gray describes some eight species of Wood Sorrel, and a very characteristic one is here shown in Figures 8 and 9. Note, in the first named figure how

three separate plants have sprung, at considerable intervals, from the same pale-colored, slender runner; in Figure 9 the terminal one is given enlarged. This is the Lady's Sorrel or Yellow Wood Sorrel, the delicate little flowers being deep yellow. It is our most abundant species, and this one was collected in a wood-lane in southern Maryland. They do not grow in the shaded woods but flourish best in the broiling sun by the roadsides. Many are also found in fields and gardens. Children are fond of chewing the leaves and seedpods on account of their delicate sour taste, and many call the plant the "Lady's Sour-grass"—a name bestowed, too, on a few other species. It will be observed that the leaves are very long-stemmed, each stem bearing three heart-shaped leaflets. The plant shown in Figures 8 and 9 is fruiting, and the leaves are closed up for the day. The flowers run from two to six on the distal ends of delicate stems, and any single flower rarely exceeds half an inch across. As pointed out by Gray, "several species produce small, peculiar flowers, precociously fertilized in the bud and particularly fruitful." Each seed-pod is generally hairy, and large-sized ones may be found that possess a length of half an inch. In *O. stricta* they make an acute angle with their stemlets in each case, and this species may be readily identified by a peculiar character—taken in connection with other characters: Each of the yellow petals may have, near the base, a reddish spot. This abundant species occurs in southern Maine, extending westward to Dakota, and thence far southward.



ONE OF THE DAINTIEST AND BEST KNOWN LITTLE PLANTS OF THE WOOD SORREL FAMILY

Fig. 8—The *Oxalidaceae* with us contains but one genus of plants; it has been named *Oxalis* as the leaves are sour to the taste. The species here shown is the Lady's Sorrel (*O. corniculata*).

In the common Wood Sorrel (*O. acetosella*), which flourishes in dark, shaded woods, we have a creeping plant with white flowers, the petals of which are veined with rich purple, or, in some instances, a distinct rose. *O. violacea* has violet flowers, and grows among the rocks in wooded places, while the cosmopolitan species, *O. repens*, has small flowers. This species is a very low, creeping one, and generally regarded as a "weed" by florists, who find it in abundance about their greenhouses. There are other species in eastern districts, as *O. priceae*, *O. filipes*, and so on. Neltje Blanchan truly remarks that "every child knows how the wood-sorrel 'goes to sleep' by drooping its three leaflets until they touch back to back at evening, regaining the horizontal at sunrise—a performance most scientists now agree protects the peculiarly sensitive leaf from cold by radiation. During the day as well, seedling, scape, and leaves go through some interesting movements, closely followed by Darwin in his 'Power of Movement in Plants,' which should be read by all interested." On the other hand, the superstitionists in the Old World have woven about the sorrel many a fable; and, coming down from the Irish of yore, it is found to be the true shamrock of Saint Patrick and the "alleluia" of the Saxons.

The whole question of the method of fertilization in these sorrels is of extreme interest and importance; while additional researches are, in the future, sure to be conducted upon the peculiar "activities" of these curious plants, which not only "go to sleep"—a state even extended to the seedlings and rudimentary leaves—but which, during the daytime are in a state of perpetual movement.

OUR BIG COLONIAL EAGLE—TERROR OF THE WILD MONKEYS OF THE PHILIPPINES

A very interesting history attaches to this great Monkey-eating Eagle of the Philippine Islands, being one of the largest, if not the largest bird of prey known up to the present time. It was first described by Mr. Ogilvie-Grant at the meeting held in London on the sixteenth of December, 1896, of the British Ornithological Club. Taking its habits and anatomy into consideration, as far as these were known, Mr. Grant created a new genus to contain this magnificent bird, and it is now known to science as *Pithecophaga jeffreyi*. Those who have thus far had the opportunity to examine the material in hand, or any part of it, seem to be impressed with the fact that its nearest living ally is the Harpy Eagle of South America (*Harpy-haliaetus*). Mr. John

Whitehead, the famous traveler and collector, obtained the type specimen in the forests of Samar during his travels in the Philippines in 1894-97.

Probably the vernacular name of Monkey-eating Eagle, which has been bestowed upon this bird, will be universally adopted, and carried from now on in popular and scientific works on ornithology. In passing, it must be noted here that Mr. Whitehead has, in one place or another, referred to the "Great Philippine Eagle," a name in some respects more acceptable than the one mentioned above. Then, too, it is now a well-known fact that this bird does not always confine itself to a monkey diet, but will, when from any cause monkeys are scarce, resort to the yards of the natives, and make off with an occasional small pig or some of the poultry. This has happened so often that the natives now regard this especially handsome and powerful raptorial robber as an enemy, and as a consequence rejoice whenever one is captured or killed.

On account of the mountainous character of the country and the great density of the forests where this eagle is found, it is no easy task to either find or collect specimens of them; therefore but few skins or mounted examples occur in museums in any country—probably less than eight or ten. We have one here in the mounted collection of the United States National Museum, received from Mr. Fletcher L. Keller, of Davao, Mindanao. Several of the others are mentioned by Mr. D. Seth-Smith, F. Z. S., M. B. O. U., which appeared in *The Ibis* (Lond.) for 1910, p. 285; papers are cited in it which will enable one to locate and consult the few articles that have been written, up to the present time, on the discovery and life history of this remarkable bird. Through the same source one may also find the various cuts and colored plates that have appeared figuring *Pithecophaga,* and one of these illustrate the article just cited, having been produced by H. Gronvold. It is, however, difficult to believe that the eagle appeared *en face* as is there shown on page 290, where both eye and eyelids face directly to the front, as we find them among typical owls.

I am told that Captain Joseph Clemens published a photograph of a Monkey-eating Eagle in the *Condor,* with its history, but that the picture is a very indifferent one. In this article the author says: "I have since skinned and have in my collection another specimen, and in this one I found a monkey not yet digested. The paws were torn off and swallowed whole, then the next joint, and so on. It was eaten hair and all.

HEAD OF THE MONKEY-EATING EAGLE OF THE PHILIPPINES—THE LARGEST OF LIVING BIRDS OF PREY

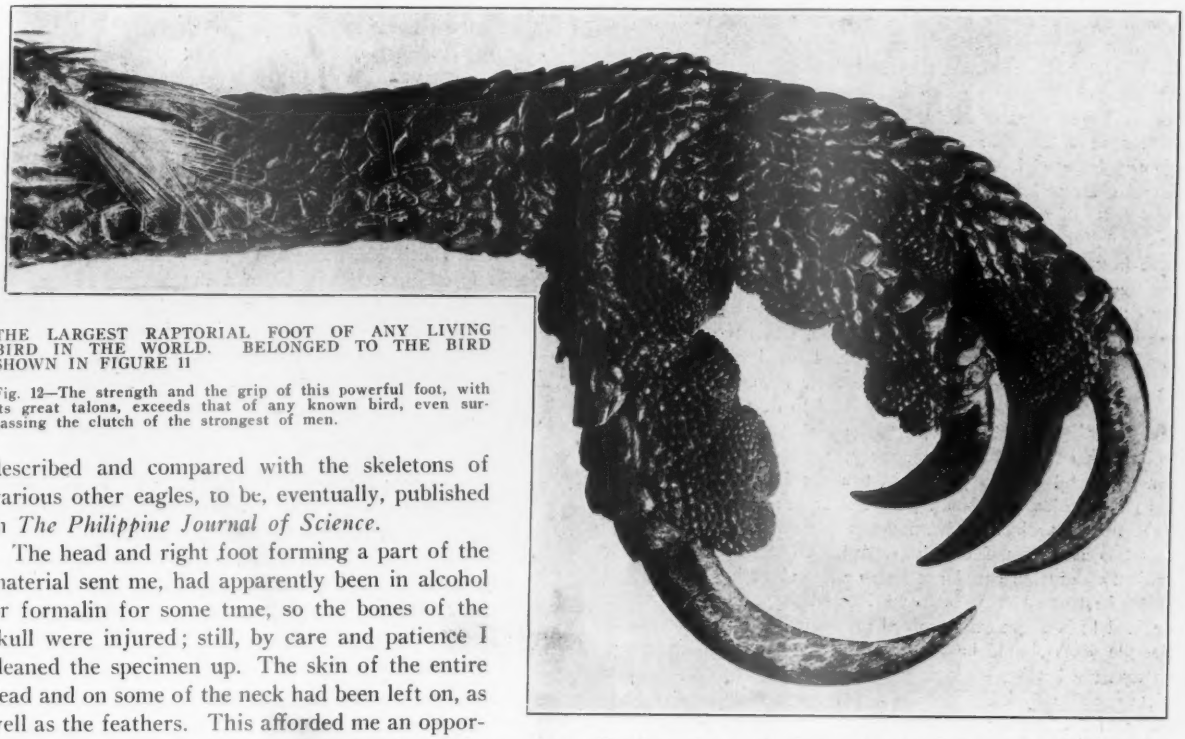
Fig. 11—Combined drawing and photograph of the right lateral aspect of the head of *Pithecophaga jefferyi.* By the author from the specimen sent him from the Bureau of Science, Manila; natural size.

"Mr. Richard C. McGregor refers to these two specimens in *The Journal of Science* for October, 1907, and to a third specimen procured by Mr. Ickis, Geologist of the Bureau of Science, on May the 11th, 1907. This was apparently the first that was recorded from the Island of Luzon. The head, one wing and foot only were brought to Manila."

On the 17th of April, 1918, Mr. McGregor sent me

the better part of two skeletons of this eagle, and in his letter of transmittal he says: "Of the material that I send you now, the head and foot belong to the Ickis specimen from Argus River, eastern Rizal Province, Luzon, May 11, 1907 [recorded by me in *Phil. Journ. Sci., Sec. A* (1907) 2, 297]. All the other material is from the Nueva Vizcaya specimen (lacks head, feet, and wing bones left in the skin). [Recorded in *Phil. Journ. Sci. Sec. D* (1918) 13, 14]. In separating the anterior vertebræ, to make the thing short enough to go in the box, I broke the anterior dorsal process of the anterior vertebræ left with the trunk—otherwise the specimen is in good condition. It is not likely that the osteology has been described unless some one has worked up the material from the Seth-Smith specimen."

All of the above mentioned skeletal parts of this eagle I prepared and photographed; it will soon be described and compared with the skeletons of various other eagles, to be, eventually, published in *The Philippine Journal of Science*.



THE LARGEST RAPTORIAL FOOT OF ANY LIVING BIRD IN THE WORLD. BELONGED TO THE BIRD SHOWN IN FIGURE 11

Fig. 12—The strength and the grip of this powerful foot, with its great talons, exceeds that of any known bird, even surpassing the clutch of the strongest of men.

The head and right foot forming a part of the material sent me, had apparently been in alcohol or formalin for some time, so the bones of the skull were injured; still, by care and patience I cleaned the specimen up. The skin of the entire head and on some of the neck had been left on, as well as the feathers. This afforded me an opportunity to secure lateral views of the head, and, by erasing and restoring, I produced the head as it appears with this article. All the forepart of it, from the eye on, is as we find it in the living bird, the feathers being copied from the ones on the feathered head sent me by Mr. McGregor and referred to above. The foot was found to be essentially perfect; so two photographic negatives were made of it; a print from one of these is here reproduced. The podotheca, or scaly covering, is, in life, of a deep orange yellow. This last does not agree with Mr. McGregor's description in his "New or Noteworthy Philippine Birds, II. (*Phil. Journ. Sci.*, Vol. XIII, No. 1, Sec. D. January, 1918, pp. 14-16), where he states that the iris is pale blue—"a very unusual color for the eye of a raptorial bird; bill dark green-blue gray, distal half black; tarsus and feet pale dirty yellow, nails black." One character mentioned by all describing this great bird is its very striking, full crest. Most of the feathers composing this are very narrow and elongate, of a medium tan shade, and each has a median longitudinal stripe of rather deep russet brown. These feathers are decidedly drawn out to thin, sharp points posteriorly, and are not blunt and rounded as Gronvold has drawn them. A Monkey-eating Eagle may weigh as much as twenty pounds.

Grant tells us that the bill is extraordinary in shape and size, the culmen being a true arc of a circle, while its depth is greater than that of any known bird of prey, except Pallas' Sea Eagle (*Haliaetus pelagicus*), in which it is sometimes a trifle greater, while such extreme narrowness, compared with the depth, is quite unique in birds of this order." To be sure it is approached by the Black Cockatoo (*Microglossus aterimas*); but in none of these is it laterally compressed to the same extent. Further, those who have examined the external characters in this bird, have noted the naked tarsi and feet, the scutellation of which more or less nearly approaches that of the Harpy Eagle (*Thrasaetes harpyia*). Both are birds of unusual strength and size; and, taken all in all, naturalists have been led to believe that these two birds are more or less nearly related; in fact, that the Harpy is its nearest relative.

It was to settle this important point in ornithology that the Bureau of Science of Manila sent me such parts of the skeleton as they possessed, in that what is now suspected may either be made more certain, or refuted entirely. My account of the osteology of this most remarkable bird of the Philippines will appear later on in the *Philippine Journal of Science* and I trust it will prove to be of use to students of bird anatomy and classification.

CANADIAN DEPARTMENT

BY ELLWOOD WILSON

PRESIDENT, CANADIAN SOCIETY OF FOREST ENGINEERS

ON Monday, the fifth of August, a meeting was held at La Tuque, Quebec, to discuss the handling of the forests of Quebec from the standpoints of assisting natural reproduction and a sustained yield. Dr. Fernow and Dr. Howe, of Toronto University, Clyde Leavitt, of the Dominion Commission of Conservation, and the writer, were present. Messrs. Piche, Chief Forester of Quebec and Mr. Sorgius of the St. Maurice Forest Protective Association were invited to attend, but were unfortunately prevented. The studies of cut-over lands, logged in accordance with the diameter limits fixed by the Provincial Government made by Dr. Howe last summer and continuing this year, show such a poor outlook for the future that some steps must be taken immediately to improve conditions if we are to have any adequate supply for the future. Destruction of trees by insects and fungus diseases is taking a place but little behind that of forest fires and it is evident that some policy of cutting must be adopted which is economically practical and silviculturally sound. Absolutely no advantage inheres in a diameter limit. The supposition on which such a policy is based is that all the trees below the limit set will be left to grow and produce a second crop. Very good in theory, but not true in practice. Dr. Howe's studies show that most of the trees left under the legal limit are in reality old trees which have been suppressed and probably will not grow any larger. Spruce is very shallow rooted, as is fir, and when the larger trees are cut out and the stands thinned, a very large percentage blow down and are lost. Then, too, when the debris from logging is left in the woods, insects and fungi use it for breeding places and it helps to increase their numbers. It is, in a way, like leaving the bodies of the dead to lie and decay among the living. It would seem, therefore, that the rational policy to be adopted would be to cut everything that was large enough for pulpwood and to pile and burn the logging debris, or to burn it broadcast, in small patches. It has been shown that a light fire is probably advantageous for reproduction, although this has not been definitely settled. Of course, steep slopes subject to erosion could not be so cut and each section should really be treated on its own merits and the methods of cutting decided by a technically trained man with practical experience. Sample plots should be laid out and treated in different ways so that the best methods may be learned by experiment. Such plots are already laid out and are being variously treated on the lands of the Laurentide Company, Ltd., at Grand Mere and the Provincial Government in co-operation with the Commission of Conservation is laying out others this summer. The Province of New Brunswick will also co-operate in this work.

A new association which will be of great help to the Province in forestry policy has just been formed in New Brunswick. It is the New Brunswick Lumberman's Association, with headquarters at Fredericton, and it will have for its objects the protection of the rights and the promotion of the interests of the lumber industry, the formulation of an efficient system of fire protection, co-operation with the Government and other lumbermen in the protection and conservation of the forests and the promotion of legislative and educational measures to conserve forest resources in general.

The Imperial Munitions Board is advertising for lumbermen in the Province of Quebec to go to British Columbia to work in the logging camps getting out airplane spruce. The wages offered are four dollars and a half a day and free transportation if the men remain six months. They must pay their own board, which is promised at $1.20 per day.

A very interesting bulletin has just been issued by the Dominion Forestry Branch on "Wood-using Industries of Quebec." This was compiled by Messrs. R. G. Lewis and J. A. Doucet.

Mr. J. N. Stephenson, Editor of the Canadian Pulp and Paper Journal, has just returned from a long trip to the west where he visited the pulp and paper mills of the Pacific Coast and also the various Forest Superintendents of the Dominion Government throughout the west. He says that pulp and paper making is being undertaken on a large scale, especially in British Columbia, and bids fair to become one of the most important industries, as it has already in the east.

The progressive Secretary of the Canadian Forestry Association, Robson Black, has thought out a good scheme for propaganda in forest protection work, and through the courtesy of the Canadian Pacific Railroad has obtained the use of a car which will be fitted up with a moving picture machine, fire pump, models of fire fighting apparatus, posters, pictures and a lecturer, speaking French and English. This car will be sent into all the woodland districts where meetings will be held.

A special exhibit by the Canadian Pulp and Paper Association will be made at the coming Toronto exhibition and will include a good deal of forestry material. Sections showing the growth of trees and seedlings of various ages will be shown to give the public some idea of the time it takes to grow trees and the necessity for an early start being made at reforestation. Mr. A. L. Dawe, the Secretary is giving much attention to such propaganda work among his members and the public at large.

The application of the co-operative idea has revolutionized the whole aspect of forest fire protection in the province of Quebec. The four co-operative forest protective associations in that province now furnish protection to more than 44,000,000 acres of forest land, including about 80 per cent of the Crown timber lands under license.

Mr. E. G. Poole, Superintendent of the Ontario Fire Protection Service has had good results with the portable fire pump which he has among his equipment and can be transported on his automobile and railway motor car. He has the pump working at Norembega where danger threatened from the burning of the bark at the rossing plant and it is perhaps not too much to say that the pump has saved a forest devastation in that neighborhood. What can be really accomplished through careful burning is instanced around Charlton, where under the supervision of the fire rangers recently a territory of 800 acres was successfully burned over with the fire being kept in control.

AMERICAN FORESTERS IN MILITARY SERVICE

This Roster is compiled from various sources. Every effort has been made to make it complete and accurate, but in the nature of things there are necessarily omissions and errors. The list, which has heretofore been printed in every issue of AMERICAN FORESTRY, will be printed quarterly, or in every third issue of the magazine, and all foresters and others who can supply additional names, report casualties, or note corrections are urged to communicate with American Forestry as promptly as possible, to the end that the list may have full value as a record of the men who have gone to war

ADAMS, George (Ohio State Univ.), 10th Eng. (For.).
Ade, Harry G. (Univ. of Montana), 23rd Casual Cantonment, Vancouver, Wash.
Adolph, Raymond D. (N. Y. State Col. For., '15), 19th Cavalry, Ft. Ethan Allen, Vt.
Agee, Fred B., 1st Lt., Engr. Corps (For.); U. S. R., A. E. F., P. O. 702, via N. Y., deputy forest supervisor, U. S. F. S.
Albano, Jack, forest ranger, U. S. F. S.
Alden, Phil. E. (Mich. Ag. Col., '18). 10th Eng. (For.) A. E. F.
Aldous, Tura M., grazing, U. S. F. S.
Aldsworth, Donald (Univ. of Minn., '14), Off. Tr. Camp, Presidio, Cal., San Diego, Cal.
Alexander, Ben. (Bilt. For. School), 2nd R. O. T. C.
Alexander, J. B., 1st Lt. Aviation Corps (Univ. of Wash., '17).
Allen, E. Whitman (N. Y. State Col. For., '19), 104th Bat., Camp Wadsworth, Spartanburg, S. C.
Allen, Raymond, New Jersey.
Allmendinger, E. J., 1st Lt. (Univ. Mich., '16), National Army, Camp Taylor, Ky.
Almy, L. K. (N. Y. State Col. For., '16), 11th Eng. (Railway), France.
Amen, Albert, 6th Bn., 20th Eng. (For.), fire guard, U. S. F. S.
Ames, F. E. (Yale For. School, '06), Capt., Co. B, 7th Bn., 20th Eng. (For.). U. S. F. S.
Anderson, A. C., 2nd Lt. U. S. A., Ft. Leavenworth, Kan. (Univ. of Wash., '17).
Anderson, Albert T. (Ore. Ag. Sch. For.), 2nd Lt., Univ. Idaho, '12, Co. E, 6 Bn., 20th Engrs. (For.); A. E. F., National Army.
Anderson, Emil A., (Univ. of Idaho, '12), C. E. 6th Bn., 20th Engrs. (For.) A. E. F., deputy forest supervisor, U. S. F. S.
Anderson, Parker O. (Univ. of Minnesota, '16), 10th U. S. Eng., France, U. S. F. S.
Anderson, S. D. (Univ. of Mich., '17), Sec. 590, U. S. A., A. S. Allentown, Pa.
Andrews, A. K. (Ore. Ag. Sch. For.), Sgt., 116th Eng.
Andrews, J. C. (Univ. of Mich., '18), Co. E, 10th Bn., 20th Eng. (For.), American University Camp, Washington, D. C.
Aney, John L. (N. Y. State Ranger Sch., '13), Second Officers Training Camp.
Archer, Frank L., Engr. Headquarters, France, forest clerk. U. S. F. S.
Archibald. H (Ore. Ag. Sch. For.). Sgt., 116th Eng.
Armsby, E. M. (Penn. State, '13), Ord. Dept.
Armstrong, Carroll W. (Bilt. For. School), Quartermaster's Dept., Fort Dodge.
Armstrong, L. J., Lt. (Univ. Mich., '13), Rainbow Division, A. E. F.
Armstrong, Ralph H. (Bilt. For. School), 104th Inf., Expeditionary Forces, France.
Arnold, Alan F., Sgt., Camp Dix, N. J.
Atkinson, E. S. (Yale For. School '16, and Biltmore), 2d Lt., Ft. Grant, Canal Zone.
Atwood, C. R. (Univ. of Maine, '15), **manager**, Unit 1. New England Sawmill Units.
Aylward, F. N. (Univ. of Calif.), Amb. Corps

BACKUS, Romayne L. (Univ. of Minn., '18). 20th U. S. Eng., U. S. F. S.
Badertscher, Ed., temp. clerk, U. S. F. S
Bacon, J. M. (Univ. Mich., '18), Co. B, 5th Bn., 20th Eng. (For.), France.
Badke, Frank C. (N. Y. State Col. For., '19), Navy.
Baker, Hugh P. (Yale For. School, '04), Capt. 46th U. S. Inf., Camp Gordon, Ga., Dean N. Y. State Col. of Forestry.
Baldenburg, Max B., clerk, U. S. F. S.
Balderee, E. W. (Ore. Ag. Sch. For.), Corp., 116th Eng., A. E. F.
Baldwin, Donald A. (N. Y. State Col. For., '17), N. A., Camp Devons, Ayer, Mass.
Baldwin, H. C. (Penn. State, '14), chief carpenter's mate, naval aircraft factory, Navy Yard, Philadelphia.
Ballard, Dean (Uni. of Wash., '12), American Lake Encampment.
Ballew, William Murray (Yale, '15), 5th Bn., 20th Eng. (For.), A. E. F.
Balmer, Joseph D. (Uni. of Wash., '18), Sgt. Bat. D, 346th Fld. Art., American Lake Encampment.
Ballou, F. C. (Penn. State, '16), 20th Eng. (For.), 3rd Bn., Co. C.
Bannister, Fred., 20th Eng. (For.), fire guard, U. S. F. S.
Bar, Warren, 20th Eng. (For.), fire guard, U. S. F. S.
Barbur, Hal (Ore. Ag. Sch. For.), 1st Lt.
Barker, S. Omar, Co. D., 502nd Service Bn., Camp Merritt, N. J., U. S. F. S.
Barlow, Harold (Yale For. School, '14), 1st Lt., Ordnance, Coe Brass Bldg., Ansonia, Conn.
Barnes, Leonard G., Cadet of the U. S. School of Military Aeronautics, Signal Corps, Princeton, N. J.
Barnett, William L. E. (Yale, '15), Section Sanitaire, U 70, Convois Automobiles, par B. C. M., Paris, France.
Barr, John B., forest ranger, U. S. F. S.
Bartlett, E. F. (Univ. Mich., '16), N. A.
Barton, Robert M., 20th Eng. (Forest), Amer. Univ., Wash., D. C.; **forest ranger**, U. S. F. S.
Bassett, Richard, Lt., (N. Y. State Col. For., '16), Spec. Demolition Detail, Ft. Niagara, N. Y.
Bastian, Clyde E., Corp. 20th Eng. (For.), Univ. of Mich., '16). A. E. F.
Bates, Raymond B. (N. Y. State Col. For., '20), 104th F. A. Camp Wadsworth, Spartanburg, S. C.
Batten, R. W. (Yale For. School, '16), 10th Eng. (For.), A. E. F.
Bay, Helmuth (Mont. For. School), 20th Engineers.
Beal, Cecil R. (Univ. of Wash., '17), 2nd Lt. 20th Eng. (For.), American Univ., Washington, D. C.
Beals, James B., 20th Eng. (For.), forest ranger, U. S. F. S.
Beam, Donald (Iowa State Col. ex, '20), C. A. C., 1st Co., Ft. De Bussey, Honolulu, Hawaii.
Beaman, Clarence W., Sgt., 10th Co., Puget Sound, Ft. Casey, Camp Lewis, American Lake, Wash., Messenger, U. S. F. S.
Beaman, La Vaughn, Co. A, 5th Bn., 20th Eng. (For.), U. S. F. S.
Bean, Russell, National Army, present address unknown.
Beatty, Homer Milo (Mich. Univ., 13), Sgt. 10th Eng. (For.). A. E. F.
Beatty, J. Eugene, forest ranger, U. S. F. S.
Bedell, Walter R. (N. Y. State Col. For., '18), Corp., 79th Aero Squad., France.
Bedwell, Jesse L., forest ranger, U. S. F. S.
Beebe, P. (Mont. For. School), 20th Engineers.
Behre, C. Edward (Yale, '17), Co F, 4th Bn., 20th Eng. (For.), A. E. F., U. S. F. S.
Bell, Ernest (Univ. of Minn., '16), Lt. Rainbow Div., Camp Mills, N. Y.
Bell, Franklin V. (N. Y. State Ranger Sch., '17), Co. C, 20th Eng.
Bell, George R. (Yale For. School, '18), 2nd Lt., 12th Fld. Art., A. E. F.
Bell, H. Waite (N. Y. State Col. For., '19), 10th Eng., A. E. F.
Bellue, A. (Student Univ. of Cal.), 10th Eng. (For.).
Beltz, H. C., 1st Lt. (Mich. Ag. Col., '18).
Benedict, M. S., 1st Lt. 10th Eng. (For.); forest supervisor, U. S. F. S.
Benedict, Raymond E., Major 10th Eng. (For.), For. Br. B. C.
Bennett, Edwin L., Co. H 157th Inf., Camp Kearney, Cal., forest ranger, U. S. F. S.
Bennett, Harry C., forest ranger, U. S. F. S. 39th Co., 164 Depot Brigade, Detention Camp No. 2, Camp Funston, Kansas.
Bennett, William W. (Univ. of Nebr., '12), Co. B. 20th Engrs. (For.), A. E. F., Funston; dep. for sup., U. S. F. S. Benson, A. O., (Univ. of Minn., '10), U. S. F. S.
Benson, A. O., (Univ. of Minn., '10), forest examiner, Co. F, 337 Inf., 85th Division, A. E. F., forest examiner, U. S. F. S.
Bentley, George A., Capt. Quartermaster's Dept., purchasing agent U. S. F. S.
Beresford, Harry Y. (N. Y. State Ranger Sch., '14), Co. E, 4th Bn., 20th Eng. (For.), A. E. F.
Bergquist, S. G. (Univ. Mich., '15), 20th Eng. (For.), A. E. F.
Bergstrom, Bertle (Mich. Agr. Col., '19), Co. A, 9th Bn., 20th Engrs. (For.), A. E. F.
Bernhardt, Carl L. (Univ. of Wash., '18).
Berry, John K., scaler, U. S. F. S.
Berry, Swift, Capt., Logging Engrs. (For.), A. E. F., forester, U. S. F. S.
Betts, E. G. (Iowa State Col. ex, '15), 1st Lt., 20th Eng. (For.), Camp American Univ., Wash., D. C.
Betts, Floyd, Co. D. 2nd Bn., 20th Eng. (For.), A. E. F., field asst., U. S. F. S.
Betts, Fred H., forest ranger, U. S. F. S.
Betz, Carl M. (N. Y. State Ranger Sch., '15), Squadron 5, Camp Dick, Dallas, Texas.
Bevan, Arthur (Univ. of Wash., '17); Canadian Eng., France.
Bevan, Jesse T., Co. E, 10th Eng. (For.), A. E. F., France, U. S. F. S.
Beyers, Walter F. (Univ. of Minn., '12), Capt., Camp Dodge, Iowa.
Billin, R. T. (Penn. State, '20), 10th Eng. (For.). Co. C.
Billings, R. W. (Mich. Ag. Col., '17), Co. A, 10th Engrs. (For.).
Billingslea, James H., Jr. (Univ. of Wash., '11), Sgt. Co. C, 10th Eng. (For.), forest ranger, U. S. F. S.
Bird, Charles A. (N. Y. State Ranger Sch., '14), 4th Co., Coast Artillery.
Bird, R. G. (20th Eng. (For.); (Cornell, '16).
Bird, Vern A. (Univs. of Minn. and Utah), 20th Eng. (For.), forest ranger, U. S. F. S.
Black, H. B. (Univ. Mich., '13), 2nd Officers Training Camp, Fort Sheridan, Ill.
Black, John J., Naval Res., draftsman, U. S. F. S.
Black, S. R. (Univ. Mich., '16), Co. F, 4th Bn., 20th Eng.), A. E. F.
Blair, Albert W., 20th Eng. (For.), forest ranger, U. S. F. S.
Blair, Earl M. (student Univ. of Cal.), 20th Eng. (For.).
Blake, Philip (Univ. of Minn., '16), Marine Barracks, Quantico, Va.
Blankman, Harold J. (N. Y. State Col. For., '16), 303 Engrs., O. T. C., Camp Dix.
Bliss, James (Ohio State Univ., '14), Capt., Chillicothe, Ohio.
Bloom, Adolph, Ensign U. S. N. Train. Sta. (Univ. of Wash., '16).
Blount, Henry F. (N. Y. State Col. For., '20), Naval Aviation Corps.
Blouse, Joseph R. (Mt. Alto, '16), Pa. Dept. For.

THE ROLL OF HONOR

IN THIS ROLL OF HONOR WE WILL PUBLISH EACH MONTH AS THEY ARE RECEIVED OR REPORTED TO US, THE NAMES OF FORESTERS WHO MEET DEATH IN SERVICE.

AUGSPURGER, STANLEY R., Dayton, Ohio. (Univ. of Mich. '17). Field assistant, U. S. F. S., District 6. Enlisted Dec. 7, 1917; was assigned to Co. D, 6th Battalion, 20th Engineers (Forest), and was lost February 2, 1918, from the transport *Tuscania*. His body was recovered, identified and buried on the Scotch coast.

COOK, MARCUS, Como, Montana (Univ. of Mont.), Co. D, 6th Bn., 20th Engrs. (For.), was lost from Transport Tuscania and buried in Scotland.

CROSS, ROBERT P., Lt., Huntington, Mass. (N. Y. State Col. For., '17), Aviation Section, Signal Corps, A. E. F., killed in aero accident, May 2, 1918.

DALRYMPLE, THERON K., Sergt., Rochester, N. Y. (N. Y. State Ranger Schl., '14), Co. A, 1st Engrs., A. E. F., died in France of wounds received in action May 10, 1918.

LEVEAUX, COSMER, Corp., Ludington, Michigan (Mich. Ag. Col., '18). Battery A, 11th Field Artillery. Killed in action August 10, 1918.

MUNCASTER, ROY (Univ. of Wash., '17), Ranger, U. S. F. S., Olympic National Forest. Enlisted in December, 1917; was assigned to the 20th Engineers (Forest), and was lost from the *Tuscania*. He is reported by the War Department as among the missing or the unidentified dead.

REES, H. S. (Univ. of Wash., '14), Canadian Contingent, killed in battle in France.

REES, L. A. (Univ. of Wash., '14), Canadian Contingent, killed in battle in France.

SHARP, MILTON K. (Univ. of Ohio, '16), Bat. A, 134th Field Art., killed December 5, 1917, Montgomery, Ala.

SIMPSON, C. E. (Penn. State Col., '16), 10th Eng. (For.), died in Scotland October 3, 1917.

SMITH, A. OAKLEY (Yale For. School, '14), killed while training for aviation, drowning in Delaware River by fall July 21, 1917.

YOUNG, DOUGLAS E., private English Army, killed in France April 10, 1917, was State Forest Warden, Maryland.

Boatman, S. A. (Mich Agr. Col., '16), Q. A. & A. E., S. S. L. Equip. Div. Signal Corps, U S. A., Detroit.
Bodine, R. C. (Ore. Ag. Sch. For.), Co. B, 20th Eng. (For.).
Boisen, Rev. Anton T. (Yale, '05), Secretary, Y. M. C. A., 31 Ave., Montaigne, Paris, France.
Bond, W. E. (Univ. Mich.), 20th Eng. (For.), Washington, D. C.
Bonner, James H., Capt., 1st Co., E. O. T. C., Camp Lee, Petersburg, Va., acting dean Mont. For. School.
Bonney, Parker S., sub. lt., Br. Navy (Univ. of Wash., '13).
Bonta, Charles W., forest ranger, U. S. F. S.
Booy, Henri (Minn. For. Sch.), 10th Eng. (For.), A. E. F.
Bosworth, James H. (Univ. of Mont.), 4th Bn., 20th Eng. (For.), A. E. F., U. S. F. S.
Bothfeld, Harry Julius (Yale, '12), Corp., 302nd Inf., Co. H, Camp Devens, Mass.
Bourner, C. Kingsley (N. Y. State Col. For., '20), 20th Eng. (For.).
Bowcott, William H., Corp. (N. Y. State Ranger Sch., '14), 7th Eng., France.
Bowen, James H., 20th Eng. (For.), forest ranger, U. S. F. S.
Bowen, John S., 20th Engrs. (For.), A. E. F., Sgt., U. S. F. S.
Bowen, Jos. B. (Yale For. School, '17), Royal Flying Corps, Camp Everman, Field 2, Fort Worth, Texas.
Bowman, J. A. (Penn. State, '14), 20th Engrs. (For.)
Boyce, C. W. (Univ. Mich., '14), Photographer, Aviation Section, S. E. R. C.
Boyce, W. H. (Penn. State. '17). Timber inspector, 814th Depot Aero Squadron, New York.
Bracy, Elbridge J., Co. B, 3rd Bn., 20th Eng. (For.), A. E. F., fire guard, U. S. F. S.
Bradfield, Lloyd E., Corp. (N. Y. State Ranger Sch., '14), Co. F, 303rd Eng., Camp Dix, N. J.
Bradley, Tom O. (Student Mt. Alto), 3rd Bn., 20th Eng. (For.), A. E F., Pa. Dept. For.
Bradner, M. J., Corp. (Univ. Mich., '15), Bat. C., 10th Field Artillery, Douglas, Ariz.
Brady, Charles C. (Univ. of Wash., '18); Battery A., Wash. Signal Corps.
Brady. Seth C., messenger, U. S. F. S.
Brandborg, Guy M., Co. 59, 15th Bn., 166th Depot Brigade, Camp Lewis, Wash., forest ranger, U. S. F. S.
Branson, H. W. (Univ. Mich., '18), Aviation Section, S. E. R. C.
Brayton, Shirley (Univ. of Minn., '18), 20th U. S. Eng., A. E. F.
Brebner, J. N., Co. A, 10th Engrs. (For.), A. E. F.
Breneman, Howard E. (Mt. Alto, '17), Co. C, 1st Bn., 10th Eng. (For.), A. E. F., Pa. Dept. For.
Brennan, Frank E., forest ranger, U. S. F. S.
Brett, S. E. (Ore. Ag. Sch. For.), Capt., 20th Inf., A. E. F.
Brinckerhoff, H. E., 1st Lt. Inf.
Brindley, Ralph, 2d Lt., Bat. C, 346th F. Art., R. O. T. C. (Univ. of Wash., '17), American Lake Encampment.
Brockway, M. (Univ. of Me., '15), checker, Ten Saw Mill Units.
Broderick, Martin J. (Univ. of Minn., '16), 1st Sgt. U. S. Engr., Co. C, 501 Bn., Engr., 20th Eng., A. E. F.
Brooks, James F. (Montana For. School, '17), Co. D, 10th Eng. (For.), forest ranger, U. S. F. S.
Brown, Bascom H., forest ranger, U. S. F. S.
Brown, George H. (N. Y. State Col. For., '20), Bat. A, 104th F. A., Spartanburg, S. C.
Brown, Harold B., 20th Eng. (For.), forest ranger, U. S. F. S.
Brown, H. Vivian, Forest Ranger, U. S. F. S.
Brown, R. A., Co. D, 23rd Eng. (Highway), Camp Meade, Md., U. S. F. S.
Brown, Thomas (Univ. of Minn.), Marines, A. E. F., France.
Brown, Robert C., asst. forest ranger, U. S. F. S.
Brown, V. S. (Univ. of Cal., '14), 10th Eng. (For.).
Brown, Vance, scaler (Univ. of Wash., '17), Bat. A, Wash. Sig. Corps, U. S. F. S.
Browning, Harold A., Signal Corps, Co. A, Ft. Severns, Ga., forest ranger, U. S. F. S.
Broxon, Donald (Univ. of Wash., '14).
Bruce, Donald (Yale For. School, '10), Capt., 10th Eng. (For.), assigned in charge of timber, reconnoissance in France. (Prof. of For. Univ. of Cal.).
Bruce, James, U. S. F. S.
Brundage, Marsden R. (Mich. Ag. Col., '17), 20th Eng. (Forest).
Bryan, Lester W., Co. C, 9th Bn., 20th Engrs. (For.), A. E. F.
Bryant, Edward S., Capt. 10th Eng. (Forest), for. inspector, U. S. F. S.
Buch, John Edward (Mt. Alto For. Acad., '17), Co. C, 1st Bn., 10th Eng. (For.), Pa. Dept. For.
Buck, Shirley, Capt. Camp Joseph E. Johnson, Jacksonville, Fla. National forest inspector, U. S. F. S.
Budelier, C. J. (Ore. Ag. For. Sch.), 2nd Lt., 347th Light Fld. Art.
Buhler, Ernest (Univ. of Minn., '13), Sgt., O. T. C., Camp Dodge, Ia.
Bullard, Herbert (N. Y. S. Col. For. '17), spruce Reg., Vancouver Bar., Wn.
Bullerdick, Ray O., Sgt., 209 squad., Camp McArthur, Waco, Texas., Asst. Forest Ranger, U. S. F. S.
Bunker, Page, city forester, Fitchburg.
Buol, E. M. (Ore. Ag. Sch. For.), Corp., 20th Eng., Co. D.
Burgess, John, Corp. 66th Co., 164th Depot Brigade, Camp Funston, Kan., surveyor draftsman, U. S. F. S.
Burleigh, T. D. (Penn. State, '18), 20th Eng. (Forest).
Burnett, O. P. (Univ. Mich., '18), Co. D, 10th Bn., 20th Eng. (For.), American Univ., Washington, D. C.
Burnham, Carl F. (Univ. of Wis., '14), 1st Lt., U. S. Army.
Burnham, Roland P. (Univ. of Wash., '17); 2nd R. O. T. C., Presidio, San Francisco, Cal., U. S. F. S.
Burrall, Harrison D. (Yale, '07), 29th Eng., Camp Ayer, Mass., forest examiner, U. S. F. S.
Burt, E. H., Lt. (Mich. Ag. Col., '14).
Busteed, F. Gordon, 2nd Lt. (N. Y. State Col. For., '18), 50th Inf., Camp Greene, Charlotte, N. C.
Buttrick, P. L., Lt. Am. Amb. Serv. (Yale For. School, '14).
Byrne, Geo. J., Jr. (Univ. of Cal.); Amb. Corps.

CALKINS, Hugh G. (Yale For. School, '09), 2nd Lt., F. A. N. A., 166th Depot Brigade, Camp Lewis, Amer. Lake, Wash., forest supervisor, U. S. F. S
Calloway, G. A. (Univ. of Mo.); 10th Eng. (For.).
Calloway, Joseph R., forest ranger, U. S. F. S.
Calvert, Gerald F. (Univ. of Wash.); Canadian Contingent in France.
Cameron, J. F. (Univ. of Wash., '19); Av. Training Camp, San Diego, Cal.
Campbell, J. (Ore. Ag. Sch. For.), Medical Dept., 13th Inf.
Campbell, John W. (Biltmore), 2nd Lt., Bat. C, 330th F. A.
Campbell, Tom (Ore. Ag. Sch. For.), U. S. S. Northern Pacific.
Canfield, Ardus (N. Y. State Ranger Sch., '13), Co. C, 1st Bn., 20th Eng. (For.), A. E. F.
Cangiamila, Joseph (N. Y. State College, '18), Royal Flying Corps, Canadian Aviation Camp, Texas.
Cappel, Frederick, Headquarters A Schools, U. S. A. P. O. 715, A. E. F., clk., U. S. F. S.
Carmer, Henry S. (N. Y. State Col. For., '18), Bat. A, 104th F. A., Spartanburg, S. C.
Carney, Thomas, Sgt. (Mont. For. School), 20th Engineers.
Carpenter, Herbert M. (Bilt. For. School), 20th Eng. (Forest).
Carvey, Matthew (Ohio State Univ.), Aviation.
Carey, N. Leroy (Univ. of Mich., '16), 405 Squad. A. S. S. C., North Cantonment, Vancouver, Wash. Forest assist., U. S. F. S.
Casey, James W. (N. Y. State Col. For., '17), 10th Eng. (For.), A. E. F.
Cassidy, Hugh O. (Iowa State, '16), Co. C, 1st Bn., 20th Engrs. (For.), forest ranger, U. S. F. S.
Cecil, Charles L., Officers Training Camp, Deputy Forest Supervisor, U. S. F. S.
Cecil, Kirk P. (Kan. Ag. Col., '07), Lt. Coast Art., Ft. Stevens, surveyor, U. S. F. S.
Chamberlain, Harry (Penn. State, '14), 20th Eng (Forest).
Chamberlin, W. J. (Ore. Ag. Sch. For.), 1st Lt., Aviation, A. S. S. C., U. S. R.
Chandler, Chas. O. (N. Y. State Col. For. ex, '18), 10th Eng., A. E. F.
Chapman, Charles S., Major, (Yale For. Schl., '02), 10th Eng., (For.), A. E. F., District Forester, District 6, U. S. F. S.
Charlson, Alex. (Univ. of Wash., '16); Canadian Contingent, in France.
Chatrand, Lee F. (Univ. of Wash., '16), Co. D., 4th Bn., 20th Eng. (For.), forest ranger, U. S. F. S.
Chartrand, L. J. (Mich. Ag. Col., '14).
Cheetham, J. W., Corp. (Mich. Ag. Col., '19).
Chipperfield, Albert, 10th Engrs. (For.), A. E. F.
Chipperfield, W. A. (Univ. of Mont.), 10th Eng. (For.).
Christensen, Alfred C., Hdqt. 10th Engrs., A. E. F., forest clerk, U. S. F. S.
Christman, R. J. (Ore. Ag. Sch. For.), 2nd Lt., 116th Eng.
Chubb, S. W. (Penn. State, '12), U. S. F. S.
Chudderdon, Harold A., forest ranger, U. S. F. S.
Clancy, J. P. (Ore. Ag. Sch. For.), 20th Eng. (For.).
Clark, Donald H. (Univ. of Wash., '17), 1st Lt., Bat. F, 348th Field Art., American Lake Encampment.
Clark, E. V., 1st Lt. R. O. T. C., Camp Funston, Kan., forest supervisor, U. S. F. S.
Clark, F. L. (Ore. Ag. For. Sch.), Co. D, 20th Eng. (For.).
Clark, John C. (N. Y. State Col. For., '17), Camp Hancock, Augusta, Ga.
Clark, Robert C., forest ranger, U. S. F. S.
Cless, Jr., George H., (N. Y. State Col. of For.), 1st Lt., R. O. C., 332nd Inf., Camp Sherman, Chillicothe, Ohio.
Clementsen, Harold, 2nd Lt. (Mich. Ag. Col., '17).
Clemmons, Walter C., 20th Eng. (For.), A. E. F., forest ranger, U. S. F. S.
Clifford, C. J., Sgt., 10th Eng. (For.), A. E. F., France, forest clerk, U. S. F. S.
Cline, Albert C., 1st Lt. (N. Y. State Col. For., '18), Aviation, France.
Cochrell, Albert N., forest ranger, U. S. F. S.
Colburn, Clayton J. (N. Y. State Ranger Sch., '13), 10th Eng., A. E. F.
Colburn, H. C., 10th Eng. (Forest), Co. B., Expeditionary Forces, France, U. S. F. S.
Cole, Paul, 10th Bn., 20th Engrs. (For.).
Colgan, J. G., 1st Lt. (Mich. Ag. Col.).
Colledge, Edward W. (Bilt. For. School), Am. Amb. Serv., France.
Colter, Charles S., U. S. F. S.
Colville, L. F. (Mont. For. School), 10th Engineers.
Coman, E. S. (Ore. Ag. For. Sch), Corp., 116th Eng., Co. F.
Condon, H. R., 1st Lt. (Penn. State, '12), Co. C, 10th Eng. (For.), Pa. R. R. forester, Phila., Pa.
Cone, Theodore (Univ. of Minn.), U. S. M. C., 71st Co., 7th Eng., Santiago de Cuba, care of Postmaster, N. Y.
Conklin, J. (Univ. of Cal., '16), 20th Eng. (For.).
Conklin, W. Gardiner, 1st Lt. 20th Eng. (Forest), Co. D, 4th Bn. (Pa. State For. Acad., '08); Pa. Dept. For.
Connor, Frank W., 12th Aero Squadron, Wright Branch, Dayton, Ohio, forest guard, U. S. F. S.
Conrad, H. H. (Penn. State, '21)
Cook, Arthur M., Lt. (Yale, '08), Camp Laurel, Md., Co. B, forest supervisor, U. S. F. S., 601st Engrs.
Cook, G. D. (Mich. Agri. College), 1st sergt. 10th Eng. (Forest).
Cook, John W., clerk, U. S. F. S.
Cook, H. O., Capt., 2nd Forest Regiment, Mass.
Cook, Samuel (Mont. For. School, '18), 1st Bat., R. O. T. C., Camp Lewis, Wash., forest ranger, U. S. F. S.
Cookingham, Kenneth (N. Y. State Col. For., '17), R. O. T. C., Madison, Barracks.
Coolidge, Philip T. (Yale, '06), Signal Corps Office, 816 Consumers' Bldg., Chicago, Ill.
Cookston, Roy, Capt., 10th Engrs. (For.), A. E. F.
Cool, Frank J., master Engineer, 655417, 603rd Regiment of Engrs., A. E. F., U. S. F. S.
Cool, W. C., 2nd Lt. (Cornell, '16).
Coolidge, Lieut. Joseph (Harvard, '12), 20th Eng. (Forest), consulting forester.
Cooper, Carl B., 2nd Lt. (N. Y. State Col. For., '16), Artillery.
Cope, H. Norton, forest ranger, U. S. F. S. (Penn State, '15), Sgt.
Copsey, C. N. (Student Univ. of Cal.), 10th Eng. (For.).
Corbitt, Willis G. (Univ. of Wash., '18), Co. C, 3rd Bn., 20th Eng. (For.), A. E. F., U. S. F. S.
Cormany, Conrad P. (Iowa State Col. ex, '19), Corp., Co. D, 41st Inf., Flat River, Mo
Cornell, H. H. (Iowa State Col., '16), R. O. T. C., Camp Dodge, Iowa.
Cortright, I. J., 2nd Lt. (Mich. Ag. Col., '11).
Covill, L. L. (Univ. of Mont.), 10th Eng. (For.).
Cowan, Talmadge D. (Mont. For. School), 20th Eng. (For.), forest ranger, U. S. F. S.
Cox, Windsor G., U. S. F. S.
Coykendall, William W. (Yale ex., '14), Co. B, 10th Eng. (For.), A. E. F.
Coyle, William J. (Univ. of Wash., '18), 1st Lt., Inf., American Lake Encampment.
Crane, Leo (Univ. of Minn., '16), A. E. F.
Crawford, C. B (Mich. Ag. Col., '13).
Critchley, Horace F (Mt. Alto, '13), 2nd Lt., 328th Fld. Art., Camp Custer, Mich., Pa. Dept. For
Crittenden, Errol D., Camp Dix, N. J., Scaler, U. S. F. S.
Crocker, E. S (Mich. Ag. Col., '18).
Cronemiller, F. P. (Ore. Ag. Sch. For.), 20th Eng., Co. B.
Cronk, C. P. (Univ. Mich., '12), Expert Spruce Inspector, Aviation Corps.
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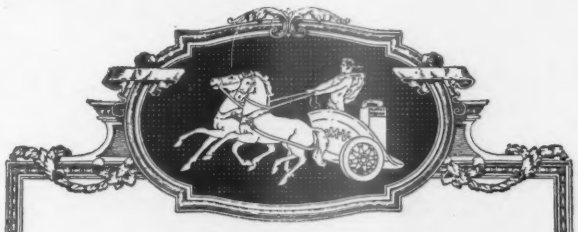

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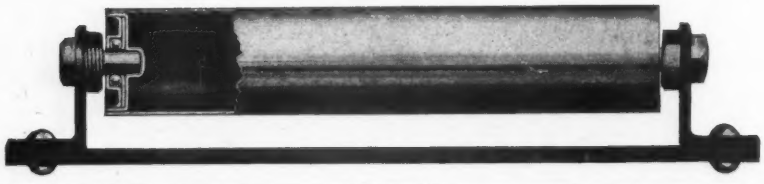

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CURRENT LITERATURE

MONTHLY LIST FOR AUGUST, 1918

(Books and periodicals indexed in the library of the United States Forest Service.)

FORESTRY AS A WHOLE

Proceedings and reports of associations, forest officers, etc.

Dutch East Indies—Dienst van het boschwezen. Verslag, 1916. 117 p. maps. Weltevreden, 1917.

Great Britain—Commissioners of woods, forests, and land revenues. 94th-95th annual reports. London, 1916-17.

India — Ajmere-Merwara — Forest dept. Annual report on forest administration for year 1916-17. 26 p. Ajmer, 1918.

India—Andaman Islands—Forest dept. Report on forest administration for the year 1916-1917. 39 p. Calcutta, 1918.

India — Central Provinces — Forest dept. Report on forest administration for the year 1916-1917. 131 p. Nagpur, 1918.

India — United Provinces — Forest dept. Annual progress report of forest administration for the forest year 1916-17. 121 p. Allahabad, 1918.

Indiana—State board of forestry. Report for the year 1917. 13 p. Indianapolis, 1918.

Interstate conference on forestry, Perth, 1917. Report of the resolutions, proceedings, and debates. 114 p. pl., maps. Perth, Govt. printer, 1918.

Norway — Skogdirektoren. Indberetning om det Norske skogvaesen for kalender-aaret, 1916. 120 p. Kristiania, 1918.

FOREST DESCRIPTION

Massachusetts—State forester. The forests of Plymouth county, by James B. Morris. 48 p. pl., map. Boston, Mass., 1918.

FOREST BOTANY

Maiden, J. H. Critical revision of the genus Eucalyptus, pt. 34. 17 p. pl. Sydney, N. S. W., Govt. printer, 1918.

SILVICULTURE

Tree planting

Mattern, J. Randall. The use of explosives in the tillage of trees. 78 p. il. N. Y., Institute of makers of explosives, 1918.

Michigan—Public domain commission. Michigan state forests; price list of planting stock. 1 p. Roscommon, Mich., 1918.

FOREST PROTECTION

Insects

Swaine, J. M. Canadian bark beetles, pt. 1; Descriptions of new species. 32 p. Ottawa, 1917. (Canada—Dept. of agriculture — Entomological branch. Bulletin no. 14.)

Fire

Dwight, T. W. Forest fires in Canada, 1914-15-16. 45 p. diagrs. Ottawa, 1918. (Canada—Dept. of interior—Forestry branch. Bulletin 64.)

Jones, Richard—Chapin. A plan of forest fire protection for Virginia. 4 p. Charlottesville, Va., 1918. (Virginia—State forester. Forestry leaflet no. 3.)

New Hampshire—Forestry commission. Personnel of the forest fire service. 63 p. Concord, N. H., 1918. (Circular no. 8, revised.)

Western forestry and conservation association. The western fire fighters' manual, chap. 2-4, 6. Portland, Ore., 1918.

FOREST ADMINISTRATION

United States—Forest Service. July field program, 1918. 35 p. Wash., D. C., 1918.

FOREST UTILIZATION

Canada—Dept of the interior—Forestry branch. Forest products of Canada, 1916. 64 p. Ottawa, 1918. (Bulletin no. 62.)

Lumber industry

Jones, Richard Chapin. How the forests and the lumber industry in Virginia can both be preserved. 32 p. il. Charlottesville, 1916. (Virginia — State forester. Forestry leaflet no. 8.)

Wood-using industries

Lewis, R. G. and Doucet, J. A., comp. Wood-using industries of Quebec. 89 p. il. Ottawa, 1918. (Canada—Dept. of the interior—Forestry branch. Bulletin no. 63.)

Rhode Island—Wood fuel committee. Wood as a substitute fuel. 3 p. Providence, R. I., 1918.

Taylor, A. E. Woodlot improvement and the production of firewood. 7 p. il. Wooster, O., Agricultural experiment station, 1918.

United States—Dept. of commerce—Bureau of foreign and domestic commerce. Paper, paper products and printing machinery in Argentina, Uruguay and Paraguay, by Robt. S. Barrett. 166 p. pl. Wash., D. C., 1918. (Special agents series 163.)

WOOD PRESERVATION

Pearson, Ralph S. A further note on the antiseptic treatment of timber, recording results obtained from past experiments. 128 p. pl., tables. Calcutta, 1918. (Indian forest records, v. 6, pt. 4.)

AUXILIARY SUBJECTS

Aeronautics

United States—National advisory committee for aeronautics. Third annual report, 1917. 495 p. il., pl., diagrs. Wash., D. C., 1918.

Clearing of land

Mattern, J. Randall. Clearing land of stumps. 75 p. il. N. Y., Institute of makers of explosives, 1917.

Poisonous plants

Marsh, C. D. Stock-poisoning plants of the range. 24 p. pl. Wash., D. C., 1918. (U. S.—Dept. of agriculture. Bulletin 575.)

Marsh, C. D. and Clawson, A. B. Notes on larkspur eradication on stock ranges. 6 p. Wash., D. C., 1918. (U. S.—Dept. of agriculture—Animal industry bureau. Publication.)

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PERIODICAL ARTICLES

Miscellaneous periodicals

Aerial age, July 22, 1918.—A grumble about glue, by M. O'Gorman, p. 924.

Aerial age, Aug. 12, 1918.—The grain of wood with special reference to the direction of the fibers, by A. Koehler, p. 1068-70.

American sheep breeder, July, 1918.—Improvement and maintenance of far western ranges, by J. T. Jardine, p. 427-30.

Aviation, July 15, 1918.—Balsa wood in Costa Rica, p. 871.

Botanical gazette, July, 1918.—Significance of resinous tracheids, by S. J. Record, p. 61-7; Bisporangiate cones of Pinus montana, p. 68.

Bulletin of the Pan American union, June, 1918.—The Hawaii national park, p. 794-803.

Country gentleman, July 13, 1918.—Black walnut for gunstocks, by W. R. Mattoon, p. 2, 26.

Country gentleman, July 20, 1918.—A real idea; soldiers on cutover land, p. 12.

Gardeners' chronicle, June 22, 1918.—London trees, by A. D. Webster, p. 251.

Gardeners' chronicle of America, July, 1918.—The weeping beech, p. 198; The Japanese maple, p. 198; The value of tree stumps for fuel, p. 201.

Geographical journal, June, 1918.—The forest region of northeast Russia and its importance to Great Britain, by E. P. Stebbing, p. 359-74.

Journal of the Franklin institute, Aug., 1918.—Dyestuffs, by L. J. Matos, p. 187-209.

Journal of the New York botanical garden, Apr., 1918.—Tree planting for forests, by S. W. Allen, p. 82-6.

Munsey's magazine, Aug., 1918.—Building our wooden fleet, by R. G. Skerrett, p. 517-25; Treenails, by L. C. Everard, p. 525-8.

New country life, July, 1918.—The picture story of our principal national parks, by R. S. Yard, p. 45-68.

New Zealand journal of agriculture, June, 1918.—Private forestry, by J. H. Simmonds, p. 334-53; Killing trees with arsenic, p. 357-8.

Oregon voter, July 27, 1918.—Fall of the spruce, p. 19-22.

Phytopathology, July, 1918.—Host relationships of the North American rusts, other than Gymnosporangiums, which attack conifers, by A. S. Rhoads and others, p. 307-52.

Queensland agricultural journal, July, 1918.—The algaroba tree, p. 28-9; Splitting shingles, p. 50-1.

Scientific American, June 22, 1918.—Bone and sinew for our aircraft; winning the world war in the forests of Oregon and Washington, by H. E. Thomas, p. 564, 577.

Scientific American, June 29, 1918.—Wooden ships versus the submarine, p. 588-9.

Scientific American supplement, June 8, 1918.—Tree planting to control snow and wind, by W. C. Palmer, p. 356-7.

Scientific monthly, June, 1918.—Gall insects and their relation to plants, by E. P. Felt, p. 509-25; Technical problems in national park development, by F. A. Waugh, p. 560-7.

Sunset magazine, June, 1918.—Wooden span; how the Pacific Coast is transforming fir trees into ships, by W. V. Woehlke, p. 36-8.

Travel, Aug., 1918.—Uncle Sam, woodsman, by H. Starr, p. 9-13, 40.

Trade journals and consular reports

American lumberman, July 13, 1918.—Advises use of wood in logging locomotives, p. 53; Some facts about the walnut trees, by S. Wittenmyer, p. 55; The passing of the lumber jack, p. 67.

American lumberman, July 27, 1918.—Methods of handling depreciation and investment in lumber accounting, by W. Compton, p. 48-9; Sam Bunyan, son of John, by R. Y. Stuart, p. 49.

American lumberman, Aug. 10, 1918.—Wood must stop the gap in the nation's coal supply, p. 1; The present and future problems of the lumber industry, p. 38-9.

American lumberman, Aug. 17, 1918.—Sawdust briquettes for fuel, p. 27; The preparation of spruce for airplane material, p. 34.

Barrel and box, July, 1918.—Waste wood for fuel purposes, p. 40.

Canada lumberman, Aug. 1, 1918.—Pacific Coast products in world markets, by T. D. Pattullo, p. 85; Piers, booms and log drive in lumbering, by R. Morrissette, p. 88-90; Organize to perpetuate forest revenues, by W. F. V. Atkinson, p. 93-4; New Brunswick taking stock of timber, by T. G. Loggie, p. 97; Big impetus given to wooden shipbuilding, by E. Woodworth, p. 109-13; Lumbering operations in Bruce peninsula, by W. J. VanDusen, p. 113-14; New cutting tool for felling trees, p. 116.

Engineering and contracting, July 17, 1918.—Grading and track laying for logging railroad with a ditcher, p. 58-9.

Engineering news-record, July 18, 1918.—Wood-stave pipe built of local hemlock in North Carolina, by D. R. Shearer, p. 138.

Engineering news-record, Aug. 1, 1918.—Facing leaky rock fill dam with timber planks, by G. M. Bull, p. 229-31.

Hardwood record, July 25, 1918.—The wood of chairs, p. 23; Maple by states and industries, p. 23; Methods of computing costs of kilndrying lumber, by T. D. Perry, p. 33-4.

Hardwod record, Aug. 10, 1918.—Use of yellow poplar by industries, p. 21; Balsa wood for airplanes, p. 21; The timber of British Guiana, by T. B. Percival, p. 32a-b; Time to begin planting trees, p. 32b.

Journal of the American leather chemists'

association, July, 1918.—Manufacture of oak extract in Japan, by L. Balderston, p. 305-13.

Lumber, July 15, 1918.—Working wonders in western forests, by C. C. Chapman, p. 36-7.

Lumber, July 29, 1918.—Experiments in proper wooden roofing, p. 18-19; Farm wood lot tie making, by H. H. Shepard, p. 28-9.

Lumber, Aug. 12, 1918.—North Carolina and other cut-over lands, by J. E. Williams, p. 14-15; The evolution of oak, by S. J. Record, p. 17-18.

Metallurgical and chemical engineering, May 15, 1918.—Use of wood in chemical engineering, by A. W. Schorger, p. 528-31; Potash from wood ashes; production in Michigan and Wisconsin, by C. T. Edgar, p. 537-9.

Municipal engineering, Apr., 1918.—Recommended procedure in the construction of wood block pavements, by L. T. Ericson, p. 139-40.

Paper, Aug. 7, 1918.—Sawdust as a material for papermaking, by J. Strachan, p. 11-12.

Paper mill, Aug. 3, 1918.—Sawdust pulp, p. 2, 46; Digging wealth from buried trees, p. 42.

Paper trade journal, Aug. 8, 1918.—Improvement in making of paper pulp, by S. Wells, p. 48, 54.

Pioneer western lumberman, July 15, 1918.—Public announcement regarding lumber and logs, p. 12-13; Producing lumber for 30,000 airplanes monthly, p. 19.

Pulp and paper magazine, June 20, 1918.—Some aspects of logging in the Adirondacks, by A. B. Recknagel, p. 558-9.

Railway review, July 20, 1918.—Wood as fuel for logging locomotives, p. 105-6.

Southern lumberman, Aug. 3, 1918.—Historical survey of the lumber industry, by H. F. Holtzclaw, p. 30.

Timber trades journal, June 29, 1918.—Arbor day in Korea, p. 895; The organization and development of the home timber trade during the war, p. 917-40; The home timber trade in 1917, p. 943-8; Plywood, p. 949; Review of the import timber trade of the United Kingdom, p. 977-1065; Engineering and wood-working machinery section, p. 1067-78.

Timber trades journal, July 6, 1918.—The timber industry, by P. Groom, p. 7-8.

Timberman, July, 1918.—Logs and lumber carried by aerial tramway, by L. T. Hays, p. 32B-C; Land for 200,000 soldiers, by T. T. Munger, p. 56-7; Soldiers on cut-over lands, by F. K. Lane, p. 86.

U. S. daily consular report, July 18, 1918.—Cultivation of carobs in Algeria, by A. C. Frost, p. 238-40.

U. S. daily consular report, July 31, 1918.—New Brunswick forest survey results, by E. V. Richardson, p. 403; Extracting kauri gum oil in New Zealand, by A. A. Winslow, p. 415.

U. S. daily consular report, Aug. 1, 1918.—South African imports of lumber, by G. H. Murphy, p. 424.

U. S. daily consular report, Aug. 3, 1918.—Afforestation enterprises in southeastern Manchuria, by J. K. Davis, p. 462.

U. S. daily consular report, Aug. 6, 1918.—Hull's timber trade, by H. M. Byington, p. 494.

U. S. daily consular report, Aug. 8, 1918.—Development of Philippine rattan industry, by J. F. Boomer, p. 523-6.

U. S. daily consular report, Aug. 13, 1918.—Uses of Australian spotted gum, p. 589.

West Coast lumberman, July 1, 1918.—War demands wider utilization of sawmill waste, by G. S. Wilson, p. 19.

West Coast lumberman, July 15, 1918.—Continuous production of forest crops practical, by B. P. Kirkland, p. 32-3.

West Coast lumberman, Aug. 1, 1918.—Some basic principles in the use of creosoted fir for marine construction, by B. L. Grondal, p. 21.

Wood turning, Aug., 1918.—Croquet balls and mallets, by J. C. Taylor, p. 4; Windsor chairs, p. 5; Relation of weight and strength, p. 6.

Wood-worker, July, 1918.—Importance of proper lumber drying, by J. Brown, p. 31-2; Art and practice of filling woods, by A. A. Kelly, p. 39-40; Shaping airplane propellers, by A. B. C. p. 40-1.

Forest journals

American forestry, Aug., 1918.—Battling the pine blister rust, by S. B. Detwiler, p. 451-7; Help the trees, p. 457; The time to cut walnut, p. 457; Barracks A. R. C.—American Red Cross, by P. L. Buttrick, Second Lieut., A. R. C., p. 458-63; The Hun of plant life, p. 463; Trees for the dead, p. 463; Put the sun to work, by Charles Lathrop Pack, p. 464-9; Lumber brings big price in Germany, p. 469; A two-million dollar garden plot in New York City, p. 470; Shade, by Theodosia Garrison, in Everybody's Magazine, p. 470; War demands threaten historic forest of Fontainebleu, p. 471-2; A letter from the Chaplain of the Tenth, p. 472; Donations to the welfare fund for lumbermen and foresters in war service, p. 472; Belgian forests wantonly sacrified by Huns, p. 472; The uses of wood—The place of the wooden roof in civilization, by Hu Maxwell, p. 473-82; Black walnut from the Guggenheim estate offered to the Government, p. 482; Tuscania survivors reunited abroad, p. 483-4; A girl who guards the forests from fire, p. 484; An army "parson" in France, p. 486-8; Trees for the Holy Land, p. 488; A letter from the front, p. 488; Midsummer flower-hunts, by R. W. Shufeldt, M. D., R. A. O. U., etc., p. 489-96; Kaiser bought walnut for war ten years ago, p. 496; News print paper from saw dust, p. 496; Gift of road to Delaware, p. 496; Upland game birds; the

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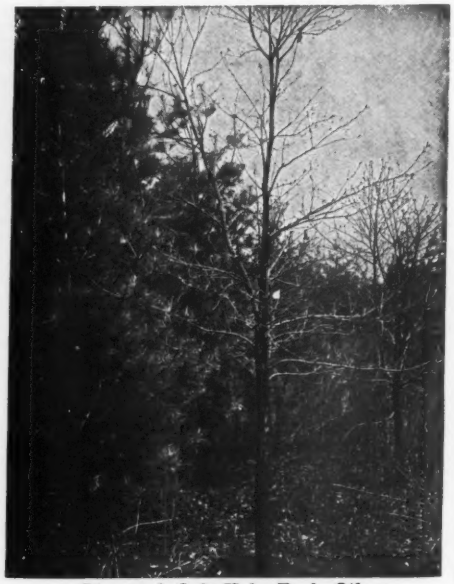

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Grouse, by A. A. Allen, Ph. D., p. 497-501; Lieut. Douglass wounded p. 501; American trees for Japan, p. 501; Canadian Department, by Ellwood Wilson, p. 502-3; Trees survive years of fire, p. 503; Russia's enormous forest resources, p. 503.

Canadian forestry journal, June, 1918.—Finland's public-owned forests, by S. T. Dana, p. 1727-9; The status of railway fire protection in Canada, by C. Leavitt, p. 1730-4; The tragedy of Cross Forks, by S. T. Dana, p. 1741; The fight to save our white pine, by J. H. Faull, p. 1743-7.

Indian forester, Apr., 1918.—A preliminary note on the manufacture of wood-tar, by P. Singh, p. 141-7; Methods of working bamboos, by E. Marsden, p. 147-65; Notes for the use of dye-woods, by T. Sington, p. 173-4; Germination of Cupressus torulosa seed, by M. P. Bhola, p. 175-6.

New York forestry, July, 1918.—Forest taxation; report of the special committee, by G. N. Ostrander, p. 5-12; Forest taxation, by R. S. Hosmer, p. 13-19; The forest taxation law of Connecticut, by W. O. Filley, p. 20-1; The forest classification law of Massachusetts, by F. W. Rane, p. 22-4; Taxation bills of 1918, p. 24-5; Report on tussock moth contest, by E. P. Felt, p. 26-7; New York state's wood fuel campaign, by W. G. Howard, p. 29-34; Game farming at Cornell, by B. Adams, p. 35-6; Forest taxation, p. 37-40.

North woods, May-June, 1918.—What forestry has done for the Chippewa Indians, by C. C. Andrews, p. 9-12.

Quarterly journal of forestry, July, 1918.—An estate saw mill, by G. F. T. Leather, p. 164-9; Light and air in relation to tree growth, by W. P. Greenfield, p. 169-77; Notes on the nature of property in standing timber, by W. L. Taylor, p. 188-92; British timber supplies and the safety of the realm, p. 193-203; Old records of planting, p. 204-12; The protection of birds, p. 213-22.

MEMORY OF DEPARTED FORESTERS HONORED

UNUSUAL and lasting honor to the memory of former district ranger, Roy Muncaster, who lost his life when the **Tuscania** was torpedoed, has been paid by the United States Geographical Board, according to notice received by District Forester George H. Cecil, of Olympic, Oregon. The information is conveyed that a peak of the Olympics has been named Muncaster Mountain, in honor of the heroic forester, who was a private in the 20th Engineers, (Forest). The peak is on the line between townships 24 and 25 north, range 7 west, north of Quinault River and south of Rustler River in the district of the Olympic National Forest formerly administered by Ranger Muncaster. His courage and nerve in the face of danger is attested by his last words: "Cheer up, Harp, we'll get the Kaiser yet," spoken to E. E. Harpham, a brother forester who was in the lifeboat with him, just before their frail craft was smashed on the rocks. Similar honors have been paid to two other departed foresters in the north Pacific district, Plummer Peak in the Tatoosh range, Washington, having been named for Fred G. Plummer and Ireland Mountain in eastern Oregon for Henry Ireland.

HOO-HOO ANNUAL MEETING POSTPONED A YEAR

AFTER consulting the members of the Supreme Nine and House of Ancients regarding the 1918 annual, Snark of the universe, W. A. Priddie has instructed Secretary-Treasury, E. D. Tennant to announce that it is the unanimous opinion of the executive boards of the Order that, for patriotic reasons, the 1918 Annual Meeting be postponed, to take place in Chicago September 9-10, 1919.

The reasons that induced the Supreme Nine and House of Ancients to come to this decision were principally that, owing to a large proportion of our members being engaged in the manufacture of lumber, which is an essential win-the-war industry, they should not be asked to take time from their work to attend an annual meeting. Also, that the fourth Liberty Loan is due September 28th.

The cost of attending an annual this year would be almost double any previous year and, as the members of the Order of Hoo-Hoo are determined to do their utmost toward helping the Government win the war, they felt it was the patriotic duty of the members to forego the pleasure of meeting their fellow Hoo-Hoo at an annual and save the money for Liberty Bonds.

It also costs considerable for the Order to hold an annual meeting and it was decided that this money should be conserved for work that will help the Order do its share in the all-important duty of beating the Hun.

McCULLOUGH WALNUT TREES FOR GOVERNMENT

WHAT has been known as "The Walnut Grove Farm," near Troy, Ohio, belonging to D. M. McCullough, must now seek a new name and the owner thinks that it might be called, appropriately "The Liberty Farm."

The reason for the change in name is the result of a call which Lieut. J. F. Keene, of the ordnance department at Washington, made upon Mr. McCullough, when the military officer suggested that the Government would like to have all walnut trees of any value on the place. As the results of the visit Mr. McCullough arranged to sell the trees to J. W. Frye, representing the Hoosier Veneer Company, of Indianapolis, which has a government contract.

All of the walnut trees, except three, located in the back woods of the farm, will be cut down and shipped to Indianapolis, while a large part of what is known as the "walnut grove" will be cleared.

At the same time W. J. Meredith, residing on the ridge north of Troy, arranged to sell all of the walnut trees on his land. Mr. Meredith has some ten trees, all of which are splendid specimens.

BOUQUETS

"I think the pictures of the spring wild flowers in AMERICAN FORESTRY are the most superb that I have ever seen. I am so delighted with the magazine that I have subscribed for it."

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"AMERICAN FORESTRY is a magazine with a mission, and is doing much to preserve and increase our beautiful forests, shrubs, birds, national parks, etc. By increasing its scope, it is made more useful, interesting, beautiful and gains a wider circulation. The nature lover is the one who will do most to preserve the beautiful in nature. The admirable series of articles on trees, by Detwiler, are as interesting to me as a novel, and should be published in book form. I was surprised that these articles could be made so intensely interesting. The same is true of the series on birds, by Allen, and these should by all means be published in book form and spread broadcast over the country, so as to still further educate people to the importance of bird life. I hope you keep up the bird department, as this is a very important one from the standpoint of forestry. Articles on shrubs, wild flowers, landscape gardening, parks, rivers, mountains, etc., will add to the usefulness of the magazine. I intend to bind all my back numbers, as the information will be good for generations. I will recommend the magazine to everyone I know that loves nature."

DR. C. B. GROSCHNER.

"My subscription to AMERICAN FORESTRY I have never regretted. Its illustrations are superb—and the book should be an inspiration to every American to take care of the trees."

CHARLES E. TEALE.

"I have enjoyed the AMERICAN FORESTRY magazine very much through the year, and am glad to be a member of the Association, as I am greatly interested in the preservation of trees, birds and wild flowers."

CLARA M. BOLTZ.

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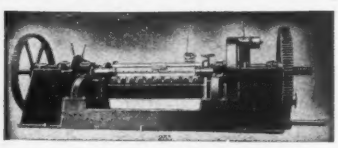
CO-OPERATIVE arrangements have been made with 126 individual owners controlling about 250,000 acres of timber lands in California, whereby the Forest Service assumes the detection and fighting of all fires that may occur. The lands are situated within the territory covered by the rangers of the Eldorado and Tahoe Forests. This protection is obtained at an average cost of 1½ cents per acre paid by the owners.



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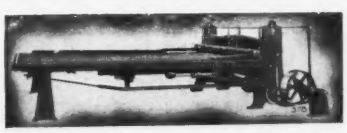

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The usual method of compressing sawdust into briquettes is by the aid of pitch or tar as a binder in suitable machines. At one time machines were used in the West, in which, instead of a pitch binder, string was wrapped around the briquette, and held the sawdust in shape until it was used for fuel.

PROCLAMATIONS have been issued by Governor Withycombe, of Oregon, and Governor Lister, of Washington, calling attention to the great fire danger, and warning campers and other forest users to be especially careful in the use of fire. Posters bearing the proclamations have been printed and sent to the Supervisors for posting. Two slogans have been placed on the posters, printed in red: "All campers should carry shovels" and "Patriotic people prevent forest fires."

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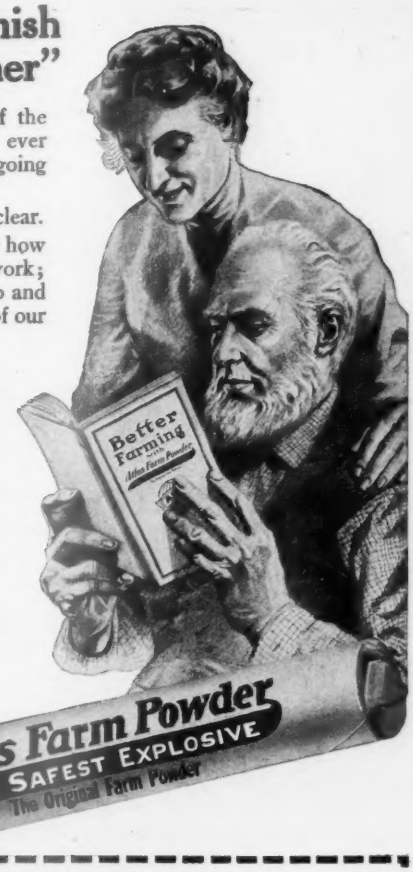

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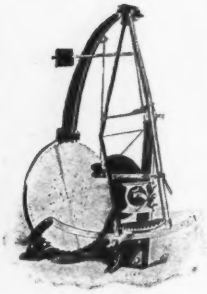
A. R. JOYCE, Chicago, Ill.
F. J. ANGIER, Baltimore, Md.

Southern Pine Association
J. B. WHITE, Kansas City, Mo.
J. E. RHODES, New Orleans, La.
HENRY E. HARDTNER, Uranie, La.



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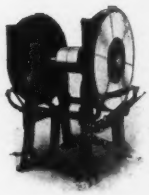

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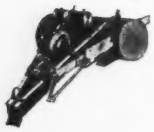

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